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an evaluation from the perspective of former contribution evaders. Jordan - case study

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**SOCIAL SECURITY CONTRIBUTION EVASION: AN EVALUATION
FROM THE PERSPECTIVE OF FORMER CONTRIBUTION EVADERS
JORDAN - CASE STUDY**

Prepared by

Bassam Al Subaihi

SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS FOR THE DEGREE OF

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ABSTRACT

Despite the critical nature of the Social Security Contribution Evasion (SSCE) phenomenon, relatively few studies have investigated and analysed the problem. The vast majority of contemporary studies have been undertaken in the USA and Europe; very few in the countries of the developing world. This relative dearth of empirical studies on the SSCE clearly indicates a gap in our knowledge given the absence of reliable empirical evidence towards the cause and the extent of the problem. What is more, current taxation literature is clear in that it shows us that most studies are focused mainly on the individual taxpayer and the relation of these taxpayers to the general role of personal income tax. This is odd as there is a significant evasion problem in other domains, especially in areas such as where companies deliberately choose to evade social security contributions amongst others.

What this thesis essentially sets out to do is to empirically examine the relationships between the SSCE and several explanatory factors related to the particular context of Jordan from the perspective of former corporate contribution evaders. This thesis gives special attention to Economic Factors (EF) (e.g. tax rate, and fine rate) and Non-Economic Factors (NEF) (e.g. the impact of the Corporation Management Effectiveness (CME), the Legal and Regulatory Structure (LRS), and Ethical and Social Considerations (ESC). To the researcher's knowledge, there is no study in Jordan that has investigated the problem of contribution evasion from the former corporate contribution evaders' perspective. The aim of this dissertation is to fill this gap by evaluating the nature of contribution evasion at firm level and to develop an understanding of the main reasons why contribution evasion occurs in Jordan.

To achieve the research objectives, this study uses a combination of quantitative and qualitative methodologies. The quantitative approach is represented here by multiple regression analysis that relies on the use of a self-administered questionnaire. The qualitative approach, however, is represented by the appliance of semi-structured interviews with key participants. In this study, stratified random probability samples were chosen from the target population of 2264 firms.

The structured questionnaires that were used in this study were designed to include key variables identified from the existing literature in a standardised questionnaire, but also, vitally, included a number of questions developed by the researcher that pertained directly to the Jordanian context. 350 questionnaires were personally distributed and collected. Of these there were 229 valid returns.

The particular use of regression statistics in this study was to analyse the research data in such a way as to attempt to discover the empirical relations between independent and dependent variables. The analysis was conducted in two discrete stages: the aggregate and at the disaggregated level.

At the aggregated level, the regression model identified the EF, CME, LRS and ESC to be positively and significantly associated with the contribution evasion problem at the .01 significance level. However, amongst this range of factors, the LRS was found to be the most powerful single explanatory factor. Subsequently, the EF was found to be the second most important factor, followed closely by the CME. The ESC did remain supported, but its coefficient was noticeably lower than any other factors, and thus ostensibly, it makes a smaller contribution to the determining of the contribution evasion problem.

From the perspective of these former evaders, the findings revealed that there is moderate satisfaction with JSSC's performance across the firms approached for this study. The most highlighted problems appear to stem from the way that the administration handles its corporate affairs and the lack of coordination between the corporation and outside parties. In addition, some firms believe there are real opportunities to collude with JSSC inspectors.

The results also showed limited JSS provision¹, a lack of a linkage between JSSS contributions and benefits and the absence of a morality within firms towards JSSCE policy; these were deemed the most important reasons for the problem of contribution evasion within ESC. The respondents' results indicated that the former firm evaders' behaviour was unethical and socially irresponsible towards the problem of SSCE in Jordan.

¹ The JSSC focuses only on two types of insurance: - Insurance against injury in the workplace and occupational disease and Insurance against old age, disability and death.

Furthermore, participants revealed negative opinions towards the efficiency of JSSC's audit programme and penalty structure. In addition, they demonstrated that the most important economic variables that caused an employee to report contribution evasion are the high levels of unemployment within the country and companies' financial problems at the time contributions were due.

The disaggregated stage analysis was conducted in three distinct levels. These were based on the characteristics of individual firms, which were in turn categorized by industry type, ownership and size. The regression model for each of these industry groups also supported the hypothesis that LRS, CME and EF are the most significant factors in explaining variations in the contribution evasion across almost every sector studied. This is in contrast to the regression model of a firm's ownership, where the LRS and EF remain the most important determinants of contribution evasion.

The sub-sample that dealt with firm size, however, demonstrated that there were no significant differences between the sub-samples based on the small firm category and the base regression models. The results of medium-sized firms, did however, reveal a partial inconsistency with the base regression model: here, the EF and ESC factors were considered to be the most important determinants to the contribution evasion problem. In contrast, large firms, which represent only a small percentage of the total of firms (5.24%), confirmed some significant differences with the base regression model. The results showed a larger ESC coefficient and significance in the large firm category. EF proved to have the smallest significance.

The thesis uncovered that whilst EF remains a significant determinant of the contribution evasion problem in regression models at the aggregated and disaggregated level, non-economic factors are revealed to have a vitally important impact on contribution evasion. Therefore, the thesis argues that it would be erroneous to design a Jordanian compliance policy based on economic factors alone.

In conclusion, the findings of this thesis recommend a set of practical strategies both economic and non-economic that can be adopted by the JSSS administration to promote higher compliance amongst Jordanian firms and to generate increased revenue.

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List of Abbreviations

CFA	Confirmatory Factor Analysis
CME	Corporate Management Effectiveness
DBP	Defined Benefit Plan
DCP	Defined Contribution Plan
EF's	Economic Factors
EFA	Exploratory Factor Analysis
ESC	Ethical and social considerations
EUT	Expected Utility Theory
FA	Factor analysis
GT	Game Theory
ILO	International Labor Organization
ISSA	International Social Security Association
JPS	The Jordanian Pension Scheme
JSSC	Jordanian Social Security Corporation
JSSCE	Jordanian Social Security Contribution Evasion
JSSL	Jordanian Social Security Law
JSSS	Jordanian Social Security Scheme
LLE	Law and Legal Efficiency
LRS	Legal and Regulatory Structure
NEF	Non-economic Factors
PCA	Principal Components Analysis
PFA	Principal Factors Analysis

PPR	Business Process Reengineering
SSCE	Social Security Contribution Evasion
SSL	Social Security legislation
SSIU	Social Security Investment Unit
SSPS	Social Security Pension Scheme
SSS	Social Security Scheme
TA	Tax Avoidance

CHAPTER ONE

INTRODUCTION

1.1 Foreword

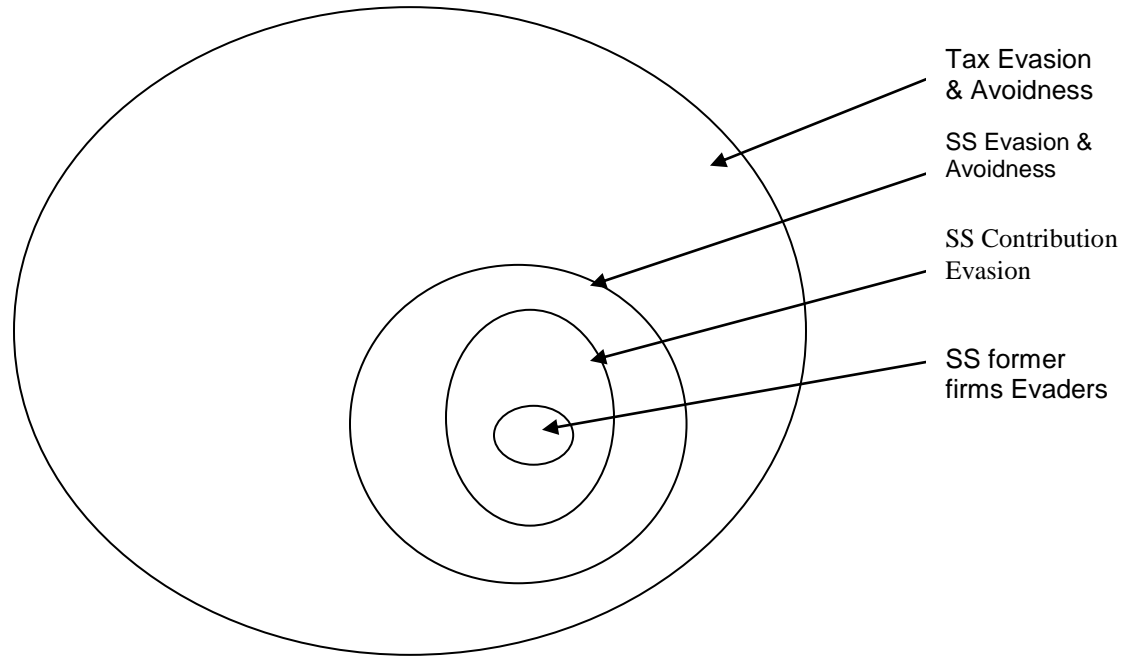
Sustainability of Social Security Schemes (SSS) is a huge challenge. A challenge refers to the ability of the scheme to maintain adequate resources to provide continuing and sufficient benefits for insured people, retired people and their dependants. It is well known that SSS can be considered as mechanisms for the allocation of consumption when transferring resources from workers to pensioners at the time the pensions are paid. Therefore, if contributions² are not being paid by participants the scheme is unable to achieve its objective and the scheme deficit may have to be supplemented by the government. Generally, Social Security Contribution Evasion (SSCE) is considered illegal and takes place when eligible members, whether they are employees or employers, do not contribute, or under contribute, their mandatory Social Security payments.

SSCE receives scant attention in the Social Security literature. In general, evasion can be investigated from a variety of perspectives. The major purpose of this thesis is to extend received knowledge on which factors have an impact on Jordanian Social Security Contribution Evasion (JSSCE) from the former firm evaders perspective (as shown in Figure 1.1) based on data collected from a field survey conducted in Amman (the capital of Jordan) in 2008. Furthermore, the researcher has been granted accesses to the JSSC

² Contributions are normally paid by employers in respect of their employees and by self-employed persons themselves.

archives (library) and the reports published by the JSSC³ such as Auditing and Inspection Department.

Figure 1.1 The Research Area



1.2 Social Security Contribution Evasion: Problem Background

Tax evasion is a significant phenomenon that affects both developed and developing economies. Although there is a degree of lingering uncertainty concerning the measurement accuracy, it is ostensibly clear that even the most conformist estimates suggest the black economy in the United Kingdom and United States is at least 10% of the measured economy (In the US, it is projected that the extent of *revenue losses* for 2001 were US\$ 353 billion (IRS⁴, 2006) (cited from Hindriks and Myles, 2006).

³ The researcher is working as Director of Risk Management at JSSC and he has got formal permission to access the required information.

⁴ Internal Revenue Services - US

Cobham (2005) works out the general level of tax income lost due to tax evasion in developing countries is roughly equal to US-\$ 385 billion per year. (Cobham refers to Oxfam (2000) as the source for this number). As an overall assessment of the literature, most existing estimates of tax gap in developing countries are not based on reliable methods and data. This is partly due to the absence of data and due to methodological shortcomings of many existing studies (Fuest and Riedel, 2009).

With regard to evasion of social security contributions, the phenomenon is not limited only to developing economies. Gillion et al. (2000) point out that this kind of evasion poses a threat in OECD⁵ countries too, although on somewhat of a smaller scale. The OECD estimates a 30% deficit in social security contributions due to undeclared work in Hungary, Mexico and South Korea, and a shortfall above 20% in Italy, Poland, Spain and Turkey (OECD, 2004a). In Turkey, firms that belong to the mainstream sector are estimated to underreport 28% of their salary bill, and for around 50% of the employees enrolled in the social security organisations of these states, salary levels reported by employers are at the minimum insurable level or less (World Bank, 2006).

Evasion of social security contributions has long been a venerable problem in the countries of Latin America. Estimates for some Latin American countries in the early 1990s show that 50 to 60% of contribution liability had not been collected, with Brazil at the top of the list. (Dimitrov et al. (2004). According to the World Bank, in Argentina, roughly 15 percent of workers receive pay partly on the books and partly off (World Bank, 2007).

⁵ Organisation for Economic Co-operation and Development

In Jordan, social security evasion is a serious problem. For example, the JSSC director general reported⁶ that 25% of the members of the SSS did not pay their contributions between 1990 and 1999. Additionally, the new extended coverage program team in the city of Aqapa conducted an evaluation study for the feasibility of implementation of the program in 2009 and they found that, 36% of the firm within the program fail to send their contributions to the JSSC. Therefore, it is often argued, plausibly, that contribution evasion is widespread in Jordan.

1.2.1 Contribution Evasion

Mandatory payments by employees and employers which are used to finance Social Security benefits are considered to be taxable items by some policy analysts and contributory items by others. The term ‘contribution’ is used to show that the benefits employees accrue are related to payments that have been made by them or on their behalf. The relationship between a contribution and a benefit occurs when both are levied on the employee's earnings. A contribution implies that there is a right to guaranteed future benefits. A tax, on the other hand, is responsible for the financing of the general function of a government, but the state benefits the individual receives are not reliant on the amount of money they pay.

In a number of countries, social security contributions are collected through the income tax system so it is impossible to pay one without paying the other. In that situation, the decision to evade social security contributions must be considered in tandem with the

⁶ Al-dustuor Jordanian Daily Newspaper, (Al Wazani. K, 2005)

evasion of income tax. In other countries, to a greater or lesser degree, the payment of the two is separated (Turner, 1997).

In Jordan, employers are obliged by law to pay social security contributions on behalf of all employees (except in the case of voluntary participants or the self-employed). Employers are subject to penalties if they fail to make the payments within specified time limits. Opportunities to evade the Scheme therefore are limited to collusion with employers and indeed sometimes the employer colludes with SSS inspectors.

1.2.2 Principal Types of Evasion

Employers can evade contributions by underreporting employees who should be covered by the SSS. For example, by designating employees as workers who are not required to contribute-such as casual, part-time, temporary, or are specified as contractors, the employer is able to bypass the SSS and thus avoid payment of the employer's contribution. They can also underreport workers' earnings that are registered with the scheme. Employers can delay remitting contributions to the SSS, contrary to the scheme regulations and make profit on the money while the delay is in effect; or, in the most insidious case, employers can fail to send contributions which they have withheld from their employees.

The specific provisions of a scheme may facilitate evasion. For example, an employee may claim to be self-employed if the coverage of self-employed workers is voluntary. Where employers require a minimum number of employees (or turnover) for coverage under a scheme, they may decide to keep the number of employees below this number.

Social security benefits are designed to replace a portion of the normal income of a worker, and it is this normal income contributions are based on. The portion of regular income in a worker's wages can be reduced by exaggerating overtime compensation and allowances- e.g. for travel.

Contribution evasion generally involves collusion between employers and employees. Often, the interests of employers and employees are mutually beneficial, with both reducing their immediate expenses by evading contribution to the scheme. Because employers are legally obliged either to make payments on behalf of their employees or to collect contributions, when evasion occurs and employees are aware of it, the employees are expected to report any violations to the social security institution enforcement office. Exceptions to the rule are when contribution evasion is the result of employer and employee collusion. Other situations might involve self-employed workers (who have no employer) and cases of the employer's embezzlement of employees' contributions (collecting where they are not sent to the government, and usually the employee does not consent or even be aware of the offence. Employees may only become aware of contribution evasion when they or a co-worker makes a claim for social security benefits (Bailey and Turner 2001).

1.2.3 Taxpayers' Behaviour

There are four types of contributing behaviour that are of interest to researchers:

- (1) Compliance
- (2) Non-compliance

(3) Avoidance and

(4) Evasion.

In the sections that follow, each concept will be briefly defined and similarities and differences between avoidance and evasion will be presented.

It is worth noting that, not all the studies use the same definitions of contribution evasion: many uses the term 'non-compliance' which is a broader term, encompassing both intentional and unintentional behaviour. This is not to be confused with evasion, which is quite different,

Contribution Compliance

According to Roth et al(1989) 'Compliance with reporting requirements means that the contributor files all required contribution returns at the proper time and that the returns accurately report contribution liability. So, contribution compliance requires the completion of a series of tasks that involve reading, calculating and forming certain essential judgements.'

Non-Compliance

This term describes the behavior of contributors who fail, intentionally or unintentionally, to meet their contribution obligations. Consequently, they may over-report or under-report their contribution liability (Roth et al, (1989). The failure to comply may be intentional or as result of carelessness, misinformation, computational error and

misunderstanding regarding contribution records and the contribution return should be completed.

Tax (Contribution) Avoidance

Tax avoidance (TA) is the act of 'Deliberately performing acts not explicitly proscribed or not executing acts not explicitly proscribed, in order to pay less tax , where these acts or the result of paying less tax is not in accordance with the spirit of the law' (Elffers, 1991). Such decisions on the contributors' part require considerable contribution planning and good fiscal knowledge or alternatively the use of a contribution expert.

Tax (Contribution) Evasion

Tax evasion consists of illegal and intentional action taken by individuals or firms to reduce their legally required tax obligations. Individuals and firms can evade taxes by underreporting incomes etc.

Contribution evasion is the act of 'Deliberately performing acts explicitly proscribed or not executing acts explicitly proscribed in the SSS regulations, in order to pay less contribution ' (Elffers, (1991). Wallschutzky (1984) defines contribution evasion as the type of contributing behavior during which 'contributors deliberately or otherwise either omit income which is contributable or claim excessive amounts of contribution as deductible expenses'.

Tax Avoidance and Evasion: Similarities and Differences

Avoidance and evasion can be considered on three levels:

- (1) Legal
- (2) Moral and
- (3) Economic.

‘On a legal level or according to the letter of the law, evasion is illegal or outside the letter of the law, while avoidance is legal or within the letter of the law’ (Bracewell-Milnes, 1979).

On both the moral and economic levels there is no difference between evasion and avoidance. On a moral level, in both types of behaviour there is an intention to pay less required tax than what it is actually owed. Therefore although avoidance is within the letter of the law it is outside the spirit of it. On an economic level, there are also no differences, since in both situations the required tax owed decreases (Sigala, 2000).

Tax evasion might produce higher moral costs than TA, as the latter is more broadly accepted, being rather, and a legal strategy to escape from tax payments.

Tax evasion is a direct violation of the rules and the law, while TA summarizes activities that do not violate the rules, but that “run counter to the spirit of the laws” (Leitzel, 2003). A key difference between Tax evasion and TA is that TA reduces the moral costs of not behaving adequately. Surveys indicate that TA seems to be more widely accepted by the general population than Tax evasion (see, for example, Kirchler, et al, 2001).

However, this use depends on individuals' knowledge and information and on the degree of complexity of the tax laws. (Eliffers 1991) argues that '...the extent to which one may choose one of these two types over another will be determined by opportunity, knowledge and/or by the desire to maintain a respectable image' (Sigala. 2000).

1.2.4 Implications of contribution evasion

The JSSCE is a serious problem for the financing of social security in Jordan. This behaviour has caused social security revenue to fall far short of that needed to pay benefits. The resulting loss in contribution revenue may lead to serious damage in the functioning of the scheme, and may ultimately threaten its ability to finance basic expenses.

If participants fail to meet their contribution obligations, any pension scheme cannot achieve the objective of providing adequate retirement income for its pensioners and their dependants. Contribution Evasion has quite clear implications for individuals. That said, it also has implications for the government, which may be forced to supplement the resultant inadequate pensions from general revenues, which in itself is a major cause for concern in its resulting amplifier effect on the rest of the economy and wider society.

Failure of participants to meet their contractual obligations to SSS is a problem which threatens not only the legitimacy of the schemes, but also the adequacy of the social protection of people whose contribution dues have been paid, as well of those who have not. It also directly affects the financial viability of Defined Benefit Plan (DBP). Generally, evasion of contribution obligations by employers and workers is illegal and

high levels of evasion and avoidance can indicate low public esteem in a SSS and may also reflect on the quality of how the scheme is administered, and also on the efficiency of scheme administration (McGillivray,. 2001).

Moreover, contribution evasion has a number of undesirable and unpleasant effects. It brings about inequities in effective contribution and contribution rates between contributors and non-contributors that may lead to an increase in the inequality of income distribution among otherwise similar workers. It brings about a situation where contribution rates are necessarily raised to produce adequate benefits than would be the case, had not the evasion taken place. The increase in the mandatory contribution rate may cause an additional problem and exacerbate evasion leading to an intermediate period of revenue shortfall.

Contribution avoidance and contribution evasion may also distort labour market activity, which has related welfare costs. The movement of workers to the underground or ‘black’ economy may reduce overall economic growth. When evasion occurs due to the under-reporting of earnings, it causes the replacement rate with respect to actual earnings to be reduced (Pashev (2005). In Jordan, evasion due to under-reporting of earnings is very common and which in turn, may distort benefit structure by changing an earnings-related benefit structure into one that is nearly flat.

1.3 The Importance of the Research

In spite of the critical SSCE problem, only a very small number of studies have investigated and analysed the phenomenon. The vast majority have been conducted in

America and Europe (see chapter three for further details). Very few studies have been conducted in developing countries and none (to the researcher's knowledge) have been conducted in Jordan. With this in mind, evidence from other quarters should not be relied on to extrapolate conclusions for places such as Jordan from the empirical data garnered in America and Europe because of the many social and cultural differences between them. The lack of empirical studies on SSCE in developing countries speaks clearly of the absence of reliable statistics towards the cause and the extent of the problem. Furthermore, it is harder to obtain trustworthy information on such sensitive topics as there is no history of this kind of inquiry.

The literature tells us that most studies focused on individual taxpayers and on income tax particularly, in spite of the significant evasion problem in other areas, especially where companies choose to evade corporate income tax, sales tax, and Social Security contributions as mentioned by Sandmo (2004): "The models surveyed so far all concern evasion by individual taxpayers, while the role of firms has been very much in the background. I have briefly noted the possible role of firms in the black labour market, but Firms could also have a more independent role in tax evasion activities as evaders of indirect⁷ taxes for which they act as tax collectors for the government".

Therefore, the basic intention of this thesis is to conduct an empirical analysis into the problem of SSCE in countries such as Jordan, so as to understand and explain the key determinants of the problem at the firm level given the lack of previous studies in this area. The current study attempts to analyse SSCE as a dependent variable working with

⁷ Direct tax is including (income tax and surtax and contributions for social security, as well as profit tax) and indirect taxes (valued added tax, excise on tobacco).

Survey data over the period 2003-2008 and looks for factors that systematically influence SSCE.

Generally, findings, in the review of the literature, have revealed that the Basic Economic Model of Tax Evasion based on an expected utility maximisation approach, predicts a lower level of tax compliance than that actually scrutinized. As a result, it has been argued that other factors might explain such a lower evasion level. The theoretical model of this study, (the model is explained in detail in Chapter 4) used here to explain the Jordanian Social Security contribution evasion (JSSCE), gives special attention to economic and non-economic factors namely; the impact of Economic Factor (EF), the Corporation Management Effectiveness (CME), the Legal and Regulatory Structure (LRS), and Ethical and Social Considerations (ESC). Furthermore, this thesis will examine whether participants' responses will provide us with an indication of the importance of these factors in determining SSCE behaviour in Jordan. In both regression models used in this thesis we will consider if Non-Economic Factors (NEF) are revealed to have any impact compared to EF across the multiple regression analyses.

To the best of the researcher's knowledge, there are few prior studies which have analysed contribution evasion. De Oliveira (1997) studied SSCE by assessing the conceptual issues involved in designing and reforming an economy's SSS's. He categorised problems into three major groups for analysis, namely the general characteristics, costing and operational issues. Whilst, the study of Baily and Turner (2001) advocated a mixture of strategies to reduce SSCE, namely, the structure of the SSS, individual attitudes, administration and the macroeconomic environment. In

addition, study carried out by McGillivray (2001) focused on a number of other issues related to implications of contribution evasion in SS.

One study of particular interest to this thesis has been conducted in the Middle East, namely in Israel. Awad et al (1998) reviewed the theoretical aspects of non-compliance decisions and examined empirically the relationships between the extent of non-compliance and a number of explanatory variables. The study revealed significant statistical relationships between employers' compliance with Israel's minimum wage and economic and demographic characteristics, namely the unemployment rate, the wage gap, and the proportion of non-Jews among low paid workers.

Finally, I chosen to engage with this subject and the main drift for undertaking the research is rooted in my own experience as an employee in Social Security Corporation in Jordan since 1988. I am a member of avoiding and evasion contribution committee which has responsibility for advising the managements on matters of contribution evasion and avoiding strategy. Finally, I am also currently working as a head of risk management department in JSSC and this problem is one of the critical risk factors which face the sustainability of the Social Security Scheme (SSS).

1.4 Research Aims and Objectives

The aim of this thesis is to evaluate the nature of SSCE and to develop an understanding of the main reasons why SSCE occurs in Jordan. By sampling former firms who were once contribution evaders, a number of hypotheses will be developed and tested in

relation to the impact of evasion and the motivation to evade contribution compliance.

The specific objectives of this study are four-fold. They are to:

- Present a critical overview of the JSSC and its administration of Jordanian Social Security scheme (JSSS).
- Develop an appropriate model to undertake empirical analysis to explain the main determinant(s) of SSCE.
- Undertake a series of interviews with which to assess the reasons for compliance of former contribution evaders.
- Propose suitable strategies for the JSSC to adopt when reforming the scheme, with the aim of reducing SSCE.

It is essential to identify the fiscal history and the present JSSS structure in order to understand the behaviour of the Social Security contributor. Accordingly, the first objective of this thesis is to demonstrate a descriptive analysis of the major characteristics of the current JSSS.

However, earlier research in developed countries has argued that evasion cannot be clarified completely by the level of enforcement: analysts began to search for other factors than detection and punishment in order to ascertain and explore the determinants of taxpayer attitudes and tax evasion. Thus, this thesis attempts to concentrate on the effects of alternative factors other than the traditional one, namely contribution rate, penalty and inspection variables. Therefore, the second objective of the present study is

to empirically examine the relationships between SSCE and a number of explanatory factors related to the particular Jordanian context. These factors refer to: LRS, EF, CME, and ESC of Jordanian firms towards the JSSCE problem. In addition, the current study tests for potential influences of key firms' characteristics (industry type, ownership and size) on the relationship between the independent factors and evasion problem. The examination of the second objective will be carried out at both aggregated (overall sample) and disaggregated (industry type, ownership and size) levels.

The third objective of this thesis is to carry out a series of interviews to understand in depth the respondents' motivations and attitudes towards SSCE. The results of the qualitative research will provide a valuable contribution to support the quantitative stage by enhancing research robustness and to improve the ability of the researcher to draw conclusions and recommendations for JSSC with greater clarity and confidence.

Finally, the findings from this thesis are expected to enhance the strategies which will finally be adopted by the JSSS administration to increase contribution compliance and to generate more revenue. Therefore, the fourth objective of this dissertation will conclude by recommending a set of practical strategies to promote compliance amongst Jordanian firms.

1.5 Research Methodology

To achieve the research objectives, this study uses a combination of quantitative and qualitative methods in order to improve the quality of information which is required for

conducting this study. The quantitative approach is represented here by multiple regression analysis using a self-administered questionnaire. The qualitative approach, however, is represented by the appliance of semi-structured interviews with key informants. Two methods of data collection have been used: secondary data has been collected through literature review, reports, statistics, census and previous surveys, etc, to achieve background information about SSCE and the JSSS, and primary data has been collected from semi-structured interviews and self-administrate questionnaires to undertake an empirical analysis to explain the main reasons for SSCE in Jordan.

The model was developed to follow the line of previous tax evasion studies with particular attention toward SSCE studies so as to solve the research problem. The general research design is explanatory in order to discover any cause/effect relationships between particular variables, and due to the time horizon, data for this study is cross-sectional.

The sample frame list was supplemented by asking the inspection department within JSSC to supply the names, sectors, locations and telephone numbers of firms who had evaded in the past. In this study, stratified random probability samples were chosen from the target population (2264 firms), which contains all firms in the city of Amman the capital of Jordan, from 2003 until 2008 who had previously evaded contributing and were currently participating in the scheme. These were organized into groups or strata according to the criteria of their economic sector. In addition, proportionate sampling was carried out where the number of groups selected for the sample reflects the relative numbers in the population as a whole, and after that, a simple random sample was drawn

from each stratum by using readily available computer programs. The researcher tried to ensure the sample size was large enough to provide adequate representation of any sub-populations of specific interests and so the results are expected to be informed by the level of saturation that is needed to achieve a strengthening of the generalisability.

Structured questionnaires in a Likert format have been designed to gather data about the basic research question SSCE. The questionnaires were designed mainly on the basis of key variables identified from the existing literature (standardised questionnaire) and a few questions developed by the researcher. A pilot study was conducted in order to construct and test the data collection method by using a pre-test questionnaire and procedure to identify problems prior to the survey, so as to confirm its appropriateness and robustness. Furthermore, Principal Components Analysis (PCA) was undertaken to reduce the selected attitudinal variables in a number of the main groupings through the consideration of the statements combined with the same shared factors in order to be able to interpret the underlying common attitudes. The questions of this survey were addressed to the head of the firm, financial and personnel managers. 350 questionnaires were personally distributed and collected and the response was that 229 valid questionnaires were returned which translates to a response rate of 65.5%.

Multivariate regression statistics have been used to analyse the research data based on data collected from a field survey seeking empirical evidence between independent and dependent variables in order to test the research hypotheses. Data analysis was conducted

using SPSS 15 computer software into manageable forms. In addition, there will be standard descriptive analysis of trends and results.

Finally, a qualitative method using semi-structured interviews was used to support the results of the quantitative research. The method employed comprised two kinds of interviews were carried out to elicit reliable information of relevance to the thesis: 17 case studies, 10 face-to-face interviews with representatives of evading firms or employers and 7 face-to-face interviews with employees at different levels within the JSSC.

1.6 The Organisation of the Study

The organisation of this thesis (as shown in Figure 1.2) comprises nine chapters. The first chapter is an introduction.

The second chapter presents a descriptive analysis of the major characteristic of the current JSSS. The discussion focuses on the objectives and principles of this scheme, its organizational structure, investment policies and performance, coverage, benefit levels, financial sources, valuation of obligations against Social Security benefits and current trends.

Chapter three starts by reviewing the literature underpinning a rationale for SSCE. After the introduction, the second section presents the Basic Economic Model of evasion

problem. This is based on Expected Utility Theory (EUT) and concentrates on traditional economic variables (such as audits, penalties and contribution rates). Researchers provide evidence that there are considerable limitations in model's capability to explain major aspects of tax compliance behaviour. Therefore, the second section continues to discuss several extensions to the Basic Economic Model that tried to incorporate such findings into a more sophisticated EUT. The third section of chapter three analyses the role of non-economic factors (LRS, CME, and ESC) which considerably affect and possibly determine the JSSCE problem. In general, this chapter argues that those three key factors mentioned above and also EF seems to be very important for understanding SSCE.

Chapter four demonstrates the methodology employed in this thesis by the researcher to achieve the thesis objectives. The chapter discusses research philosophy, methods, approaches, strategies, research method selection and data availability. In addition, this chapter introduces the theoretical model and its factors used to test the thesis hypotheses, whereas the section that follows, is devoted to setting up the research hypotheses and discusses the rationale for each hypothesis. Then, the chapter moves further towards the sampling procedure and identifies and explains the data collection method and procedures, their validity and reliability. Furthermore, details of the pilot study, the statistical technique (Multiple Regression Analysis) that has been used by the current study to test the hypotheses are presented.

Chapter five presents the Principal Components Analysis (PCA) used in this thesis to identify the factor structure or model for a set of factors. This often involves determining how many factors exist, as well as the pattern of factor loading. In general, PCA

provides an opportunity for consolidating factors and for generating hypotheses about the underlying processes.

The empirical analysis in chapter six begins by providing descriptive data about the firms that comprise the research sample, and then descriptive analyses and interpretation of the results with regard to the dependent and independent variables are presented.

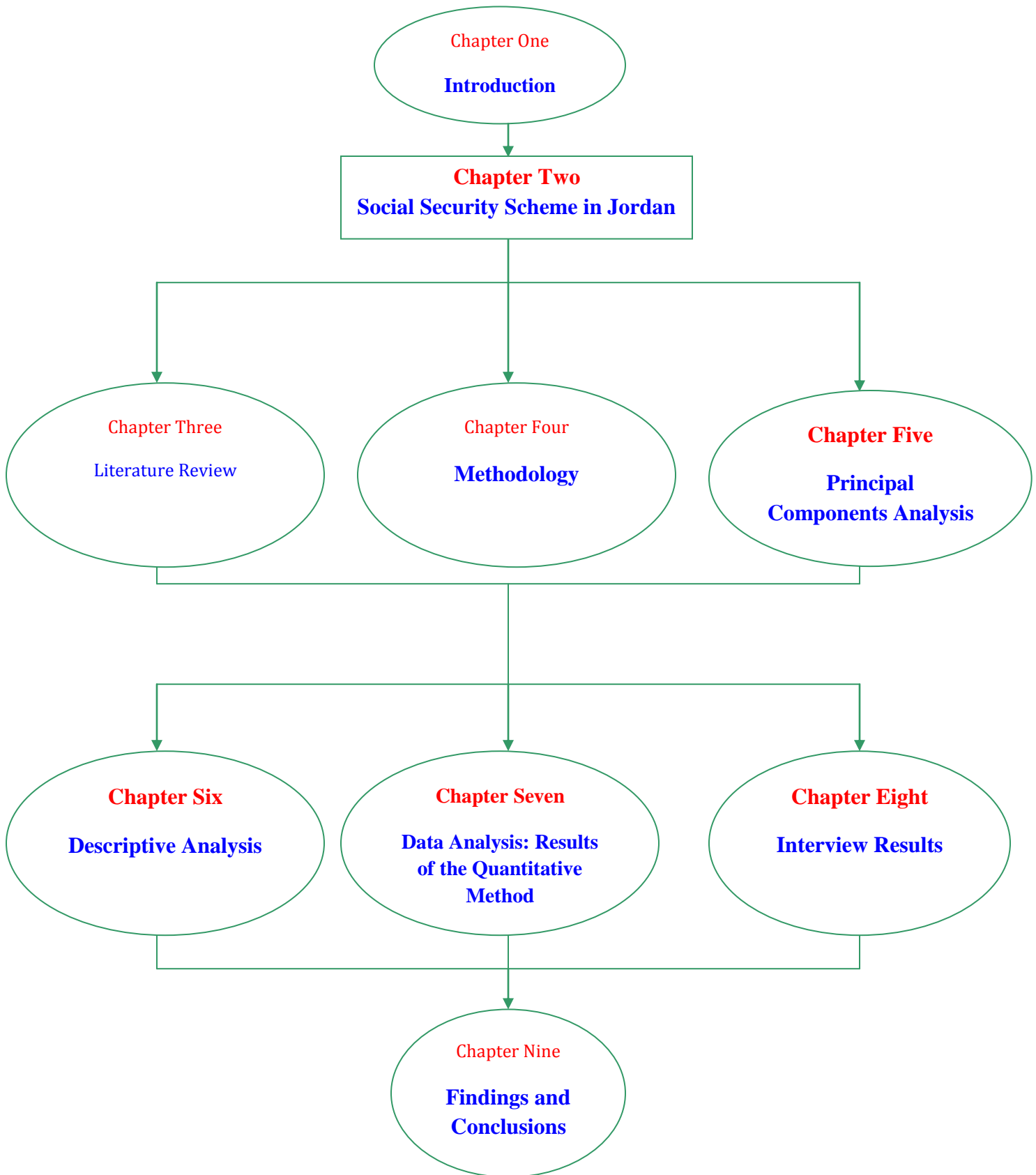
Chapter seven presents the results of the quantitative method used in this thesis (questionnaire) to analyse whether there is a correlation and a cause and effect relationship between the dependent and independent variables. After the introduction, the second section tests the basic assumptions of the regression technique. The following sections describe the results of multiple regression analysis and the effect of the explanatory factors on the explanation of the SSCE problem. However, the multiple regression analysis was conducted in two stages. In the first stage, a base regression model was made to investigate the full collective relationship between all the independent factors and contribution evasion and to examine whether a particular factor predicts an outcome when the effects of other factors are controlled. In the second stage, a supplementary regression model involving firms' characteristics was conducted at three levels based on firm characteristics (industry type, ownership and size). This chapter ends by summarising the results of the multiple regression analysis.

Chapter eight presents the results of the qualitative method used in this thesis (semi-structured interviews). The method used encompasses two types of interviews: the first one with 10 representatives of evading firms and the other with 7 employees at different

levels of the JSSC. The result reflects the interviewees' attitudes and their involvement in the process of SSCE. In general, the chapter is structured as follows: the second section 8.2 introduces the objective of the interview; Section 8.3 presents the participants' descriptions; Section 8.4 displays the interview procedures. This is followed by two sections, 8.5 and 8.6, devoted to the results of the interviews concerning the reasons that encourage firms to evade their contributions. This is from the perspective of both groups of interviewees mentioned above. The chapter concludes with a section dedicated to summarising the results of the interviews.

Chapter nine summarises the theoretical and empirical findings of this thesis as well as proposing suitable strategies to overcome the evasion problem. In addition, it presents the limitations of the study and suggests some topics for further research. The chapter contains five sections: section 9.1 is the introduction; Section 9.2 presents theoretical conclusions; Section 9.3 provides the empirical conclusions that can be drawn from conducting this research; Section 9.4 introduces strategies to reduce the JSSCE problem. Finally, section 9.5 presents limitations and recommendations for future research.

Figure 1.2 The Research Structure



CHAPTER TWO

SOCIAL SECURITY SCHEME IN JORDAN:

GENERAL AN OVERVIEW

2.1 Introduction

Jordanian Social Security Law (JSSL) was first issued provisionally in 1978. Its introduction was to address groups of workers who did not have the benefit of retirement rules or regulations unlike the government and military sectors. There was a perceived need for a socio-economic umbrella to protect those productive groups in the private sector and grant them security, safety and stability, especially after the introduction of the Jordanian Labour Law at the beginning of the 1960s, with the growth of the labour market in Jordan and the development of its economic and social conditions (JSSC, Annual report, 2006).

The JSSS has had an enormous impact on everyday Jordanian people's lives and the economy as a whole. Social Security legislation (SSL) has been aimed at providing the means of economic welfare and social security for the people as well as allowing them to lead a dignified life within a constructive environment suitable for work and creativity that would be unaffected by changes in the economic climate (JSSC, Annual Report, 2004). Therefore, the SSS in Jordan contributes significantly in the alleviation of poverty and prevents abrupt falls in the standard of living upon retirement, death, disability, occupational injury or disease, or unemployment.

The Sections that follow summarise the major characteristics of the formal Social Security arrangements in Jordan. The discussion focuses on the objectives and principles of the JSSS, the organisational structure, the investment unit, coverage, benefits levels, financial sources, and the valuation of obligations against Social Security benefits and current trends.

2.2 Analysis of the Existing Social Security System

There are two distinct and separate examples of Social Security Pension Scheme (SSPS), Defined Benefit Plan (DBP) or Defined Contribution Plan (DCP).

In a DBP such as that which exists in Jordan, the rules for calculation of the benefit's value are predefined, usually on the basis of the most recent contribution salaries. The value of that benefit which is paid out does not depend on the yield of the reserves. If the actuarial forecasts prove wrong in the long term, the only thing that can be done is for the plan's contribution rates to be re-evaluated and restructured. If, on the other hand, the plan is a DCP, it is the value of the benefit that is adjusted according to the yield of the reserves. In terms of motivation for entering the scheme, from an individual perspective, a fixed DBP is usually more of an attraction, with the proviso that someone is responsible for payment when contribution rates increase. From the perspective of the scheme sponsor, the adoption of a fixed DCP notably reduces the degree of risk involved (Turner, 1997).

The DCP is designed to collect contributions, make investments and roll out payments to those in the scheme. It has long been the case that those in the field have declared policy analysis has little or no effect the behaviour of those who contribute. The DCP is considered to be merely a savings plan that has no effect on retirement age or on calculations of labour supply.

It is also reported that DCP has no noticeable effect on the distribution of income. The World Bank looked carefully into DBP in 1994 in the report: 'Averting the Old Age Crisis'. The World Bank argued convincingly that DBP does in fact have a demonstrable distorting effect on labour supply decisions, including those of whether to retire and whether to work in the private sector. They also concluded that it adversely affects income distribution, and is a major cause of contribution evasion. They went on to say that DBP is actually subject to particular demographic and political risks (Turner, 1997).

The main tasks of the JSSC are based on a fundamental understanding of the function of social security, which involves a comprehensive insurance system comprising several types of insurance aimed at protecting the worker (the insured party) from certain risks. This is done by providing an income if the insured party loses productive and earning capacities due to an accident at the work place, disability, old age or death, and to ensure the material and psychological stability for the insured party during their lifetime, and that of their family after their death.

2.2.1 Objectives and Principles of the Jordanian Social Security Scheme

The JSSC was founded in order to enforce the rules of the JSSL by attempting to meet the following objectives:

- To secure a respectable life for a citizen and their family members by allocating a pension for the insured person or their family. This should be at the time of entitlement for such a pension whether owing to the reaching of the pensionary age, disability, sickness, or death.
- To extend the social security umbrella in order to cover more and bigger groups and to secure psychological, material, and work stability for as many as possible.
- To participate in economic and social development plans through contribution to strategic national economic projects as well as by creating new job opportunities.
- To raise health standards in society through the implementation of insurance against work injuries and occupational diseases, taking into consideration that this trend imposes diligence in participation in the efforts exerted for work safety and health. This is intended to reduce the number of the work injuries and their risks and negative effect on the national income.
- To deepen the values of solidarity in society and to participate in reducing poverty through securing a minimum income for the employee and their family.
- To guarantee effective and correct administration of contributions to ensure continuity and to achieve equity and justice in income distribution between the same generation and successive generations.
- To enhance the abilities of JSSC employees so they can obtain knowledge, skills and the support needed to work professionally, and to maintain a clear environment and a

positive atmosphere where knowledge is valued and has the effect of improving quality of life and helps creativity and motivation.

- To highlight the social security philosophy and expand insurance consciousness at the national level to create mutual responsibility, both towards the corporation's role and to the protection of the applied insurance systems in an attempt to develop them (JSSC, Annual Report, 2004).

The JSSS is based on several principles and standards which are represented by the following:

- Compulsory saving: SSS consists of compulsory saving plans for the benefit of the labourer when they lose the capacity to work.
- Self funding: SSS is self-funded through the monthly contributions deducted from the wages of labourers and contributions paid by the employers to the accounts of the labourers.
- A Pension/Wage Link: the increase in pensions is linked proportionately to the increase in wage rates (wages indexation).
- The Comprehensiveness of the SSS: this means that all labourers in the society working in any economic sector are covered by social security.
- Compulsory affiliation: the SSS applies compulsorily to both the labourer and the employer according to the legislation issued by the state.
- Integration of SSS: SSS reflects the principle of integrity among the parties of production in society in order to achieve social and economic stability.

- The continuity of the SSS: By maintaining the balance between revenues and expenditures (social security benefits) in the long run.
- The flexibility of the SSS: by allowing both transference of contributions among pension funds especially among formal ones according to insurance equations issued by amended legislative articles of the Civil and Military Pension Law (JSSC, Annual Report, 2002).

2.2.2 The Organisational Structure

The JSSC has a juristic personality and financial and administrative independence. The Board of Directors has a tripartite hierarchy, as it is composed of representatives of the government, employees and employers in an attempt to reflect its transparency and justice. The main objective of the Board of Directors is to assist in increasing the national savings rate, and to provide greater certainty in the application and amount of pensions to retired people.

The Corporation is known to apply the principle of decentralisation when providing benefits through the activation of the role of the various departments and branches distributed across the Kingdom. The organisational structure of the Corporation reflects the framework of the organizational units responsible for operating the SSS and spreads its benefits throughout Jordan in order to achieve the Corporation's goal of providing insured people with the benefits to which they are entitled. Appendix 6.1 demonstrates the Corporation organisational structure.

The number of the JSSC staff stood at (1,237) by the end of 2009, distributed among different departments and branches. Males made up 63.5% of employees compared to (36.5%) females. Bachelor degree holders ranked highest at 48.4%, followed by those with secondary high school education or lower, at of 17%. The majority of employees are distributed among technical departments due to the nature of the JSSC's core business and services, which are delivered through 15 central administrations and 18 branches and offices in all the governorates. This is in addition to three liaison offices abroad serving Jordanian expatriates in Riyadh, KSA, Abu Dhabi and Dubai, UAE (JSSC, Annual Report, 2009⁸).

- The Social Security Investment Unit

For any SSPS, the investment strategies and performance are very important. Investment Operations was a department within the JSSC until the end of 2001. The Social Security Investment Unit (SSIU) was started in early 2002 to be a financially and administratively independent body. The Unit, however, does not have a separate legal status; it is part of the JSSC. The result was the creation of a specialised investment body charged with the duty of professionally managing reserves and rationalizing investment returns.

Its mission is specified as building a modern investment institution that will manage Social Security reserves and its associated investment portfolio, according to international standards in terms of governance, accountability and management.

⁸ According to JSSC annual report issued in (2010)

Generally, Investment strategies are carried out through the following investment principles and objectives:

1. Adopt a conservative approach in order to preserve assets and reserves of the JSSC.
2. Maintain the real value of assets.
3. Achieve maximum possible profitability to extend the actuarial equilibrium period.
4. Provide the necessary liquidity to meet current and short-run obligations and liabilities.
5. Participate in projects that have a positive influence on the national economy and social development.

The SSIU Main Investment Guidelines

- **National Investment:** priority is given to national viable investments within parameters and standards that ensure soundness of investment and meet liquidity requirements.
- **Investment Diversity:** diversifying investments with a focus on medium and long term instruments to reduce risks and ensure the highest possible returns.
- **Investment Fundamentals:** avoiding speculative instruments and basing investment decision on economic fundamentals.
- **Protection against Inflation:** investing in instruments that secure the real value of the fund.

- Code of Ethics: preventing any conflicts between fund management and individual interests (JSSC, Annual Report, 2008).

2.2.3 Coverage

It is important to distinguish between coverage, or those who take part in a SSS by either law or regulation and hence are obliged to contribute to it, and compliance, which refers to the extent to which those who are covered meet their contribution obligations. As Rofman and Demarco, (1999) state ‘social security schemes can only function with the support of their participants’. Extending compulsory coverage to different categories of workers who may not wish to participate in such a scheme and which cannot be effectively enforced may lead to political benefits through its populism; it can also bring about negative effects when participation is seen as merely an illusion (McGillivray, 2001).

The JSSC covers six different types of social security insurance, and gradually implements the relevant sections of law which deal with a variety of issues that relate to the topic of social security. It does, however, focus mainly on two types of insurances:

- Insurance against injury in the workplace and occupational disease.
- Insurance against old age, disability and death.

Coverage is expected to be extended in the future through the gradual implementation of the insurance in the following areas:

- Insurance against temporary inability to work through maternity.
- Health insurance for the employees and their dependents.
- Subsidies for families.
- Insurance against unemployment (JSSC, Annual Report, 2006).

The application of these types of social insurance is expected to take place progressively, according to concomitant economic and social development and improvements in wage levels. It is further expected that these changes will be made in accordance with decisions made by the Cabinet of Ministers upon the recommendations of the Corporation's Board of Directors.

The SSS adopted by the corporation covers workers in the following fields:

- All employees of government ministries, public departments and organisations that are not subject to civil or military pension schemes.
- All labourers subject to the rules of Labour Law regardless of their sex or nationality, ranging between the ages of 16-60 for males and 16-55 for females.
- Jordanians employed at foreign political, military or international missions in Jordan or overseas.
- All workers of the Greater Amman Jurisdiction, and those in municipalities, village councils, universities and institutes.
- Those who take part in voluntary contributions according to the instructions of the board of directors of a corporation.

- Those who join on a voluntary basis from private sector firms that employ four persons or fewer.

Categories excluded in law:

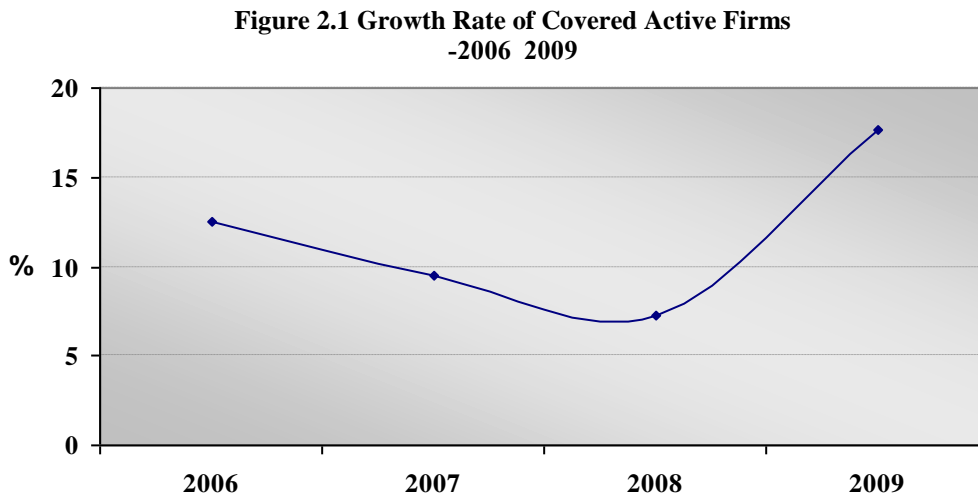
1. Public employees subject to civil or military retirement law.
2. Foreign employees at foreign political, military or international missions in Jordan.
3. Labourers who have an authorised relationship with their employers, provided that the authorised relationship is accepted in the regulations issued by the board of directors of the company.

Categories where the implementation of law is suspended:

1. Labourers employed in agricultural, forestry and pastoral activities except for those who use mechanical machines or are involved with regular irrigation work, or those who work in such activities for the government and public institutions
2. Sailors and sea fishermen
3. House servants (JSSC, Annual Report, 2006)

Each employee mandatorily contributes 5.5% and employer 11.0 % of the employee's monthly wage giving a total of 16.5%. For most of the private sector, this plan has replaced private staff provident fund schemes.

The JSSS umbrella covered more than 50% of the total number of workers at more than 17856 establishments covered by the JSSL in the Kingdom by the end of 2009⁹. Figure 2.1 demonstrates the growth rate of covered active firms for the period 2006-2009.

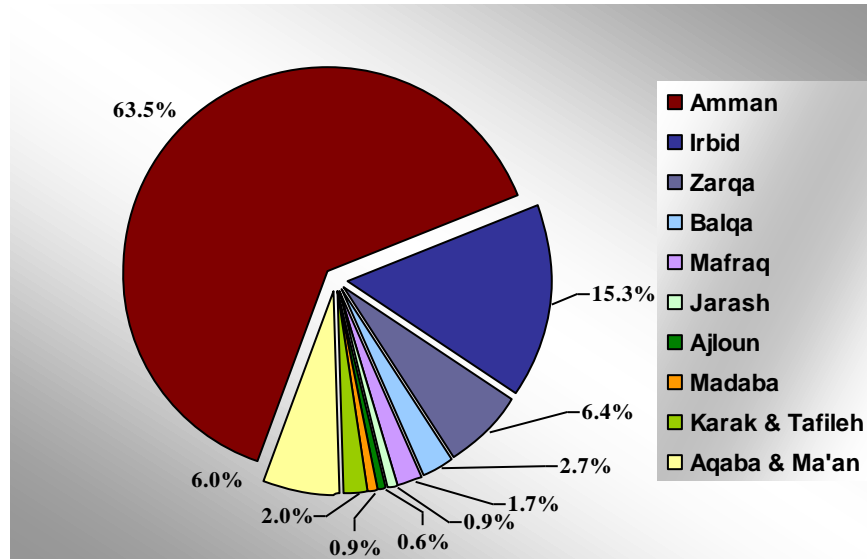


The covered active enterprises were concentrated mainly in the Capital governorate (Amman) with 63.5% of total active enterprises in year 2009, compared to 70.2% in 2008. Figure 2.2 below shows the proportional distribution of Active enterprises by governorates – 2009. See figure 2.2 below.

⁹ According to JSSC annual report issued in 2010

Figure 2.2

The Proportional Distribution of Active Enterprises by Governorates – 2009



The JSSC continued extending social protection, which resulted in the raising of the number of actively insured persons from 351,000 in 1999 to 835,000 workers in 2009, demonstrating a growth rate of 9.4%. The percentage of total Jordanians insured stood at 87.4%, while the percentage of non-Jordanians covered reached 12.6%. It was noted that insured males figured at 75.5% compared to 24.5% for insured females. The number of voluntary insured persons was noted as 41000, of which 75.8% were males and 24.2% were females by the end of 2009 (JSSC, Annual Report, 2009).

- Extending Coverage:

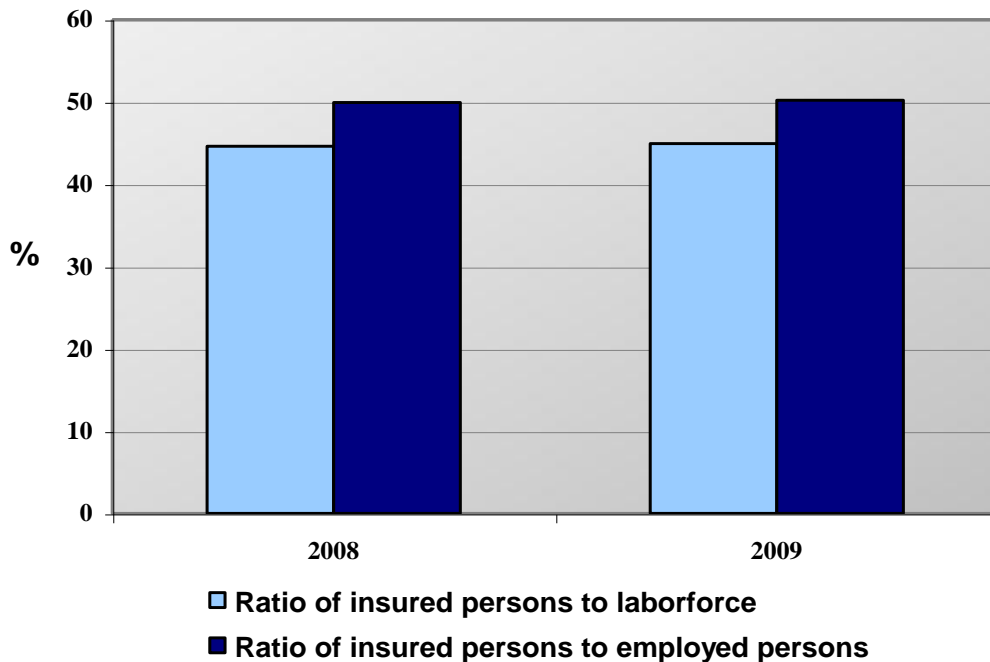
The year 2008 was earmarked as the year of extending coverage which was launched under the patronage of His Majesty King Abdullah II, with the ultimate aim of gradually covering every Jordanian citizen. This was to be done by the implementation of a new

extended coverage program. Due to the efforts of the JSSC staff and cooperation from all partners, there was a noticeable increase in the rate of those insured. The JSSC continues to work with its goal of further extension of insurance to those currently covered, so as to ensure social protection to all workers. The aim of this is to increase their productivity and so by a system of accelerators, to reflect positively on the Jordanian Economy.

Initiatives such as this one have resulted in taking the national the coverage rate to nearly half, or 50.2% of those employed by the end of the fiscal year for 2009. This can be favourably compared to the beginning of 2008, where the comparable figure was only 46.7% (JSSC, Annual Report, 2009). Figure 2.3 below shows the ratio of insured persons to labor force and employed persons.

Figure 2.3

**Ratio of Insured Persons to Laborforce and Employed Persons
2008-2009**



2.2.4 Benefit Levels

Benefits provided for claimants are mainly long-term. These include pensions for retirement, employment injury, and disability. In addition, there are lump-sum benefits for the relations of beneficiaries of these long-term benefits. These include grants for funerals, lump-sum payments for early retirement, and low-level injuries and disabilities.

Retirement pensions are normally paid to men and women at the age of 60 and 55 respectively. To qualify, pensioners should have contributed through insurance systems for at least 18 years according to the specific predetermined formulas. The benefit formula is calculated by multiplying the person's base earning by a service factor of 2.5 percent, where base earning is measured as the median average wage when calculated over the prior two year-period before retirement. The age of retirement, the number of years of contribution, and the family status of the retiree (number of dependents) is also added to the calculation of the final rate paid to the pensioner. Total benefit, however, cannot exceed 80 percent of the base earning.

In addition, the JSSS allows employees to receive retirement benefits at ages that are younger than is typical by international standards. The economic implications of this are to distort labour market activity and may distort benefit structure by changing an earning-related benefit structure into one that is nearly flat. In Jordan, both men and women can retire at the age of 46, if they so wish. They receive reduced benefits for the period between the age of retirement and the age of 60 when regular retirement is expected to begin. For women, the calculation would act between the age of 46 and 55.

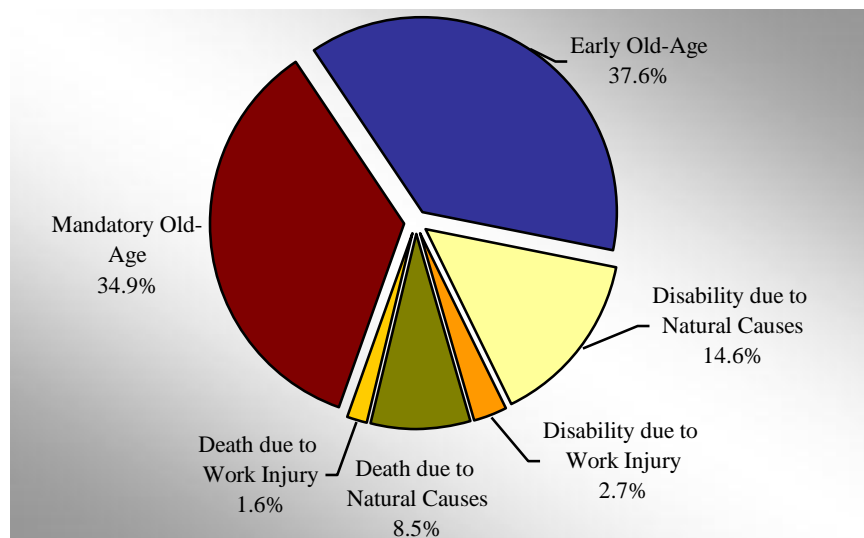
Other pensioners, i.e. the survivors, the injured, and the disabled are paid under strict qualified conditions. All kinds of pensions are adjusted to the statutory wage (or minimum wage), and the minimum pension is equivalent to the minimum wage.

As for the various advantages offered by the JSSL to those insured persons, the JSSC provides more than 118,000 pensions, paid on a monthly basis to around 835,000 pensioners and beneficiaries in the year ending 2009. Of these, 97.7 % were Jordanians against 2.3 % for non-Jordanians. Men made up 87.6% of this total compared to 12.4% for women.

Old-age pensioners (Early and mandatory pensioners) ranked as the highest number of claimants at 72.5%, followed by “natural disability” pensioners at 14.6%. Also, “natural death” pensioners made up 8.5%, “work injury disability” pensioners, 2.7%, and spouses of those who died in industrial accidents pensioners ranked as the lowest rate 1.6% the new early retirement pensioners made up 78.8% of the total old-age pension (Compulsory and Early Retirement). See figure 2.4 below.

Figure 2.4

The Proportional Distribution for the Numbers of Cumulative Pensioners by Pension Type 2009



In addition to lump sum compensations paid to about 22000 insured persons, 43.0% of them were Jordanians and 57.0% were non-Jordanians in the year ending 2009. (JSSC, Annual Report, 2009)

The total number of work accidents registered at the JSSC reached 17,243 in 2009, 11,523 of which were considered as work injuries. The rate of fully recovered injuries stood at 90.5 % in 2009, while the rate of injuries resulting in 30% disability reached 8.7% and those resulting in death of insured person reached 0.6%. Furthermore, 0.2% of injuries resulted in more than 30% disability of those who were entitled to work injury disability pensions (JSSC, Annual Report, 2009).

History of Social Security Reform

The first reforms with regard to the raising of benefits were made in 1999. The JSSS reforms in 1999 were aimed at increasing the system benefits. High inflation was probably the major motivating factor for the reforms. In general, it is plausible to say that an important aim of the scheme was to find a simple way to raise benefits, revenues, to promote equality and efficiency without making the sustainability of the system difficult to realize. The Board of Directors decided in 1999 on a set of recommendations:

1. To improve old age benefits by raising the factor to $1/40^{\text{th}}$ (2.5%) instead of $1/50^{\text{th}}$ (2%), thus raising the maximum achievable pension to 80% of a person's wage (retroactively), and therefore attracting more contributors to the scheme. By increasing the accrual rate, one improves the work incentive for those who can expect to move above the minimum pension, thus reducing labour market distortions.

2. To raise disability and survivors' pensions at the rate of 0.5 percent of the contributor's salary for every year exceeding a minimum 10 year contribution period (retroactively).
3. To raise contribution rates to cover the insurance against old age, disability and death in order to achieve a balance between social benefits and the resources to finance these benefits in the medium to long run. The employer was expected to pay 9 percent of the wages of labourers, instead of 8 percent, while the employee was to 5.5 percent instead of 5 percent (JSSC, Annual Report, 2008).

The second fiscal reforms related to the scheme design and the organisation is in progress in the current year 2011. They will be officially introduced later in the year in order to ensure the scheme remains sustainable and is able to expand its resources and programs. The main intention of the new reforms is to rationalize early retirement so as to better achieve a balance between the number of years in work and those in retirement. Early retirement pensions are expected to be allocated for those contributors who have a contribution period of not less than 23 years instead of the current 18, but only if the contributor's age is 50 or more. This early retirement pension will reduce at the rate of 10 percent, if the age of the insured is 50 and will reduced at the rate of 1% for each year after that until the insured reaches the age of 59.

2.2.5 Financial Sources Social Security Corporation

The financing of the JSSS consists of the following main sources in accordance with the law:

1. Contributions of those who are eligible are made according to the law, whether paid by the insured employee or by the employer. This applies to all employees as well as any revenue from voluntary contributions. It also includes any previous service in years where they were not included by law.
2. Interests, fines and additional amounts in cases of delay in contribution payment, not including the employees, delay in notifying at service termination, or any other cases stipulated in law.
3. Investment revenues of social security accruals in different fields of investment.

First: Revenues of Monthly Contributions paid by Insured Persons and Employers:

The JSSC financial data indicated a growth in the revenues of the contributions paid by the insured people and employers which reached JD585.4 million at the end 2009 against (JD141.779) million in 1999. The percentage of monthly contributions paid by both the insured and the employer was 16.5% of the deductible wage, covering them through insurance against Old-age, Disability, and Death. This is in addition to insurance against Work Injury and Occupational Disease (JSSC, Annual Report, 2009).

Second: Revenue from Voluntary Contribution

Voluntary contribution is considered one of the SSC's means to extend its social protection. Article 8 of the JSSL stipulates that: "the Jordanian laborer who works for an employer or who is self-employed, whether residing inside the Kingdom or abroad, or the person is a Jordanian insured person who becomes uncovered by the provisions of this law, shall have the right to voluntarily opt in, so as to be covered under national insurance against old age, disability and death. To do this, the contributor is expected to pay in full any the entire contributions due from the employer and the insured, at a total rate of 14.5% of the deductible wage". Revenues from voluntary contribution rose from JD1.609 million in 1999 to JD32.9 million in 2009 (JSSC, Annual Report, 2009).

Third: Revenues from the Inclusion of Previous Periods of Service:

The insured person has the right to apply in writing directly or through the employer to include previous periods of service, provided that they are not entitled to a pension by virtue of Civil Pension or Military Pension laws. Such benefit is accrued after completing certain conditions of entitlement for compulsory old-age pension or to increase it. In this case, the insured person shall bear total payment of all due amounts. The total revenue for including previous periods of service in 2009 amounted to JD1.9 million.

Fourth: Default Interests and Fines

The JSSL stipulates in articles 19, 20, and 21 of its code that the employer is required to pay the JSSC any contributions deducted from the wages of laborers and those still due, within a maximum of the first 15 days of the following month after they fall due. In case

of default, the employer must pay 2% interest per month on delinquent contributions provided that the amount of such interest does not exceed 12% of annual contributions. In addition, the employer who fails to deduct contributions from some or all of the laborers, or fails to pay contributions on the basis of actual wages, is required to pay an additional sum of 30% of the contributions which were not initially paid, without prior warning or notice. The JSSC financial data indicates that, the total revenue default in interests and fines for 2009 amounted to JD12.3 million.

JSSC insurance revenues have increased up to JD 632.3 million in 2009. Table 2.1 indicates the revenues of insurance contributions in 2009. (JSSC, Annual Report, 2009)

The insurance expenditures include a set of the JSSC insurance benefits:

- Frequently paid pensions.
- Expenditure for Work Injuries.
- Expenditure of Lump Sum Compensation.

Insurance and administrative expenditure reached a total of JD406.9 million in 2009 compared to JD 66.565 million in 1999, which had a growth rate of 19.6%. The total amount of paid pensions stood at JD 345.7 million, constituting a rate of 92% of total insurance expenditure, while the expenditure on work injuries reached JD5.3 million. As for the expenditure in lump sum compensation, it reached a figure of JD 23.5 million in 2009.

Administrative expenditures stood at JD32.4 million in 2009, reflecting the depreciation of fixed assets and the provision for staff indemnity and contingencies that is estimated at

JD4.5 million. This is in addition to the expenses of maintenance and infrastructure services. (JSSC, Annual Report, 2009).

The JSSC achieved a surplus of insurance contributions that stood at JD225.4 million at the end 2009, and held a growth rate of 8.4%. This surplus represents the discrepancy between total insurance revenues and total administrative and insurance revenues. The following table illustrates the revenues, expenditures and surplus of insurance contributions in 2009 (JSSC, Annual Report, 2009).

Table 2.1 Revenues, Expenditures & Surplus of Insurance Contributions 2005-2009

Type of Revenue	2005	2006	2007	2008	2009
Contributions of Old-age, Disability, and Death	252,551	304,557	347,762	427,248	528.0
Contributions of Work Injuries	28,196	33,971	39,013	47,609	57.4
Voluntary Contribution	13,320	18,019	23,372	27,515	32.9
Revenues of Including Previous Periods of Service	7,377	3,766	2,462	2,417	1.9
Different Revenues*	1,138	1,364	2,124	2,344	2.1
Insurance Activity Yields	7,095	7,313	8,457	9,484	10.2
Total Revenues <i>(after subtracting Contributions Stamps)</i>	309,677	368,990	423,190	516,617	632.3
Type of Expenditure	Amount				
Insurance Expenditures	196,542	222,598	260,666	340,269	374.5
Frequently Paid Pensions	181,754	204,719	239,885	315,541	345.7
Expenditures paid for once.	2,667	3,799	3,675	3,743	5.3
Lump Sum Compensation Cases	12,120	14,081	17,106	20,985	23.5
Administrative Expenditures	16,141	20,219	22,061	29,783	32.4
Total of General Expenditures	**215,979	**242,828	*287,892	***370,055	406.9
Surplus of Insurance Contributions	196,542	222,598	260,666	340,269	225.4

**In Million JD*

Fifth: Investment revenues

The total assets of the investment portfolio reached JD5013.9 million at the end 2009 which was equivalent to 46.2% of GDP. In addition, investments in equities amounted to 65.5% of total investment in 2009, followed by the figure for the capital market of 21.1%, and the monetary market at 8.1%, the real estate sector figure of 4.4%, and finally other assets at 1.0% (JSSC, Annual Report, 2009). The SSC covers almost every economic sector in the Kingdom, and so the JSSC is considered to be both the biggest and most important investor in the Jordanian economy (JSSC, Annual Report, 2009). Table 2.2 provides allocation of SSC investment assets, by type of investment in 2009.

Table (2.2) Allocation of SSC Investment Assets, by Type of Investment 2005-2009

Type of Investment	2005	2006	2007	2008	2009
Bank deposits	297.9	307.4	308.3	387.1	365.0
Bonds and Corporate Bonds	778.8	811.2	763.3	771.6	978.1
Stocks	3134.9	2938.9	2141.6	2802.6	2890.8
Lands and Real Estates	385.9	494.2	255.0	106.9	331.9
Loans	150.0	109.6	109.3	115.2	177.4
Fixed Assets	118.6	177.3	151.9	153.5	27.8
Other	114.3	85.0	75.5	61.2	242.9
Total	4980.5	4923.4	3804.9	4398.1	5013.9

** Preliminary data & In Million JD*

2.2.6 Valuation of Obligations against Social Security Benefits

Because the JSSS was relatively new, having very few beneficiaries relative to the number of contributing workers, it was in the process of building its assets. Both employers and employees contribute to the financing of this SSS, with the employer contributing a higher amount in general.

The JSSL states that the financial position of the Corporation is to be examined by one or more actuaries at least once, in every five year period. The importance of this in the social insurance system is to aid the calculation of revenues and insurance expenditures in the coming years, and to examine trends and directions over the progression of the system. It also acts as a way of drawing conclusions and offering suggestions to reform the system so weaknesses are excluded and a better overall financial balance is created, so as to streamline the whole system. The Corporation should perform such studies taking into consideration the changes in demography and economy in order to insure the continuity of insurance for the current and coming generations in Jordan.

Six actuarial studies were performed in the years 1982, 1987, 1992, 1997, 2002, and 2007. The Sixth Actuarial Valuation as at 31 December 2007 has been prepared in accordance with Article 15(a) of the Social Security Law No. 19 of 2001 to shed light on JSSC's future demographic and financial condition (ILO, 2007).

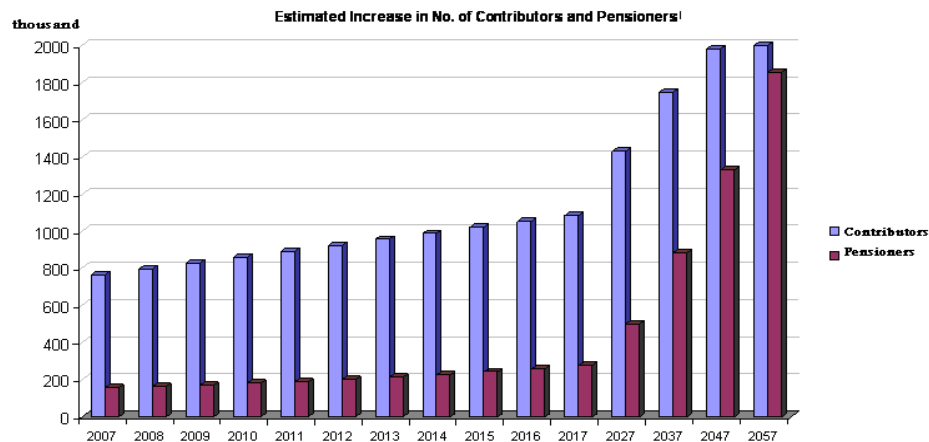
In the context of the Decent Work Country Programme in Jordan, the International Labour Organization (ILO) has been collaborating since 2005 with the JSSC to develop actuarial projection systems permitting the assessment of JSSC current benefit programmes and various parametric pension reform packages. The ILO has carefully studied the past experience and the benefit and financing provisions governing the JSSC.

The main findings thus only refer to the current situation disregarding the SSC pension reform proposals under consideration. The main findings of sixth actuarial valuation as follows:

First: JSSC demographics

Based on the demographic changes in the Kingdom, the Sixth Actuarial Valuation estimates that the number of working-age persons per retirement-age person in the general population will decline from nearly ten persons in 2007 to three by the middle of the century. For the JSSC, this translates into a situation whereby the ratio between the number of contributors (expected to rise from 764 thousands in 2007 to more than two million by 2057) and the number of pensioners and survivors (expected to increase substantially from 156 thousands in 2007 to almost two million by 2057) will deteriorate from roughly five contributors for each pensioner in 2007 to around three by 2027, and to one contributor against one pensioner by 2057. The substantial increase in the number of pensioners directly stems from the extensive use of the early retirement provisions as nearly 80 per cent of new retirees in recent years were effectively withdrawing from the labour market at ages prior to the normal retirement age of 55 for women and 60 for men. This is a demographic burden that would need to be carried by future generations of workers as shown in the figure 2.5 below.

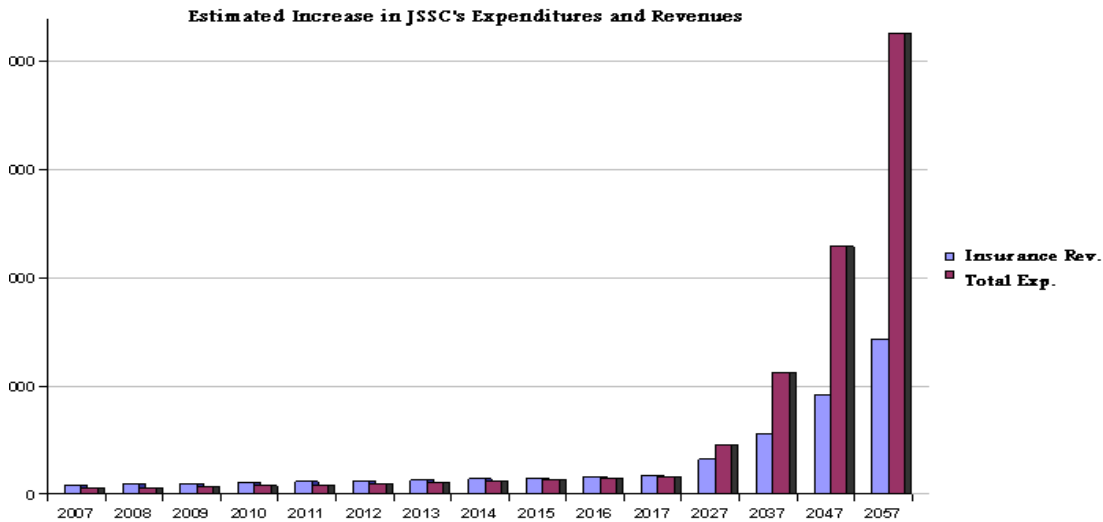
Figure 2.5



Second: JSSC benefit expenditure

In light of the above-mentioned demographic indicators, especially the increase in the number of JSSC total number of beneficiaries, the sixth actuarial valuation reflects that JSSC total benefit expenditure will likely increase annually from JD 288 million in 2007 to about JD 2,300 million in 2027 and to JD 21,300 million in 2057. See figure 2.6

Figure 2.6



The past performance review covered by the sixth actuarial valuation sheds light on the fact that despite the relatively good investment performance, an increase in the number of insured workers and higher contribution revenues that JSSC witnessed over the period since 2002, there will be a resulting increase in pension liabilities in the long-term, partly associated with the accrued rights of the newcomers who are expected to espouse a retirement behaviour similar to the one of new retirees today.

The study recommended limiting security benefits, particularly as far as the conditions for early retirement are concerned. They are emphatic that this issue should be given top

priority. Furthermore, as from the year 2010, the retirement age for new subscribers should be gradually raised, and subscription percentages should be increased over a period ranging of ten to fifteen years effective from 2008.

The actuarial study recommended charging the employer and/or the employee with some of the medical costs relating to work injury and professional ailments both in the medium, as well as the long term. The study pointed out that the recommended adjustments effective from the year 2008 is expected to relocate the overall breakeven point from 2051 to 2062.

2.3 Current trends

The JSSC looks forward to continue to develop strategies and action plans, update mechanisms and tools, and improve the skills of its staff over the coming years so as to reach the highest levels of competence in the field of insurance services. The JSSC therefore reviewed its strategic plan, set its priorities for the year 2009-2011, and prepared an action plan that is based on the following three goals:

First: to promote the insurance system to secure continuity and expand its resources and programs. It will do this by:

- Reforming insurance loopholes
- Reforming the terms and condition of early retirement
- Controlling contribution evasion.

- Reducing debts payable to the JSSC and improving methods of the collection of contributions
- Covering particular geographical areas and sectors under the SSS
- Linking investment policies to actuarial evaluations to achieve higher rates of return.

Second: to promote the best insurance services to meet customers' expectations and needs. They will do this by:

- Adopting and rooting quality education for all JSSC staff.
- Launching a set of projects, including the Data Processing Project, which aimed at processing all data related to insured people, and the PPR Project, that aimed at re-examining all procedures and work mechanisms in a bid to facilitate the possibility of paying insurance entitlements in less than 48 hours.
- Offering a set of new insurance services:
 1. The JSSC ambassador
 2. Financial decentralisation of institutions and individuals
- Adopting specified and clear performance measures and standards.

These approved activating E-payment and bank payment for departments and branches.

- Activating administrative goals and strategies representing the core of the SSC's work for 2009 based on a quarterly evaluation service.

Third: The implementation of the principles of modern management in addition to investing in human resources through modernisation, development and growth. This will be done by:

- Restructuring and setting occupational duties
- Adopting flexible staff regulation that deal with the requirements of modern management and link incentives to performance through action plans

The JSSC aspires to achieve more, including new studies that will add a basket for new insurance services. This is in addition to a reconsideration of the lower rates of entry to pension schemes, as well as a desire to link them to inflation.

Additionally, the JSSC proceeded to activate a system of international sharing with other national schemes throughout the world. This was done through exchanging experiences, signing memorandums of understanding with different social insurance institutions, and benefiting from international best practice in a bid to strengthen its position as an active member at the International Social Security Association (ISSA) and International Labor Organization (ILO) (JSSC, Annual Report, 2009).

CHAPTER THREE

LITERATURE REVIEW

3.1. Introduction

This chapter aims to introduce theories that provide a rationale for explaining the SSCE problem and to explore several key issues. Since the Basic Economic Model created by Allingham and Sandmo (1972) based on the EUT, literature on the determinants of taxpayers' evasion decisions have proliferated (Franzoni, 1999). Studies have strongly increased in the last four decades. Researchers, like Vogel, 1974; Witte and Woodbury, 1985 Smith and Stalans 1991; Smith 1992; Torgler, 2003; Kanniainen et al 2004 and Blanthorne and Kaplan, 2008 on the whole, offer psychological reasons for tax evasion in the literature and over the last twenty years, other economic researchers have emerged, such as Cowell 1990; Sloman 1997; Andreoni, et al, 1998; Slemrod and Yitzhaki, 2002; Schneider, 2007; Brautigam et al, 2008 and Mirco Tonin, 2010 who propose economic reasons rather than psychological ones for the basis of tax evasion research.

More specifically, early tax evasion studies tried to examine the relative importance of the reasonably well-formulated EUT, which was influenced by the model of Allingham and Sandmo (1972) and other authors such as Yitzhaki (1974) and Spicer and Becker, (1980). Based on this theory, economists examined the level of change in tax compliance as a response to a diverse range of deterrence policies. However, most studies revealed a higher level of compliance than the EUT model might have predicted (Alm, 1999).

As will later become obvious, deterrence and EFs are not the only factors that seem to affect the level of tax evasion. Literature in more recent years has started to test and to analyse the importance of new economic and numerous non-economic factors¹⁰ and to incorporate these factors in formal theories of tax evasion decision-making. It will become clear that taxpayers do not respond only to deterrents within the tax evasion game but also to the context within which they operate. Alm (1998) argues that tax evasion is not a single choice decision but is actually a range of multiple decisions. He adds that more analysis of the multidimensional nature of evasion is required.

This chapter is organised as follows: after the introduction, the second section discusses the issues that arise in firms' tax evasion. The third section, describes the Basic Economic Model created by Allingham-Sandmo, its basic structure, and considers its weaknesses in the light of more recent developments. It then turns to explore the issue of how to determine optimal levels of auditing and punishment when the behaviour of taxpayers corresponds to the predictions of this model.

The fourth section, introduces the extensions and modifications of the Basic Economic Model by including more economic factors (e.g., employment level and labour-cost reduction). Consequently, the fifth section analyses the role of NEFs which considerably affect and determine the SSCE problem; namely, the impact of the effectiveness of a tax agency and its administration, the legal and regulatory structure, and ethical and social considerations. Finally, a summary and conclusion are presented.

¹⁰ Non-economic factors refer to these variables studied in the disciplines of sociology, psychology, management and law.

3.2. The Evolving Theory of the Firm

Much of the literature on tax evasion looks at the actions of individual taxpayers and what motivates them to observe or break the law. The role of firms has been neglected in this literature in the main. Similarly, the emphasis normally is on individuals with regards to the black economy and not firms. Thus it seems appropriate to assess tax evasion issues from the theory of the firm rather than from an individual perspective. Such a course of action requires this thesis to summarise some of the more recent developments with respect to the theory of the firm

Penrose (1959) commented that initially the theory of the firm was constructed with the main purpose of understanding the way in which prices and resource allocation took place. Accordingly only those aspects of firm behaviour that was considered relevant to that particular issue were addressed by the theory of the firm. Other issues of note such as uncertainty or the actual behaviour of firms such as the growth and limits to the growth of firms or why firms evade tax were outside the dominant paradigm.

The organisational entity, the firm, in this theory in its simplest form is represented by an upward sloping supply curve where output adjusts seamlessly to market price signals. The firm is perceived as a passive responder to market signals that simply maximises its profit under highly competitive conditions where equilibrium is usually the norm.

But by the early 20th century, some economists and organisational theorists were arguing for an alternative view of the firm saying amongst other things that realism rather than needless abstraction was important and that the assumptions inherent in the theory were only partially relevant to contemporary problems. Consequently, a number of major attempts have been made during recent years to construct a theory of the firm by substituting other models for profit or value maximization. A number of key theories are presented below.

A key issue of the separation of ownership and control was identified by Berle and Means (1932) who noted the growth of big corporate business that was characterised with ownership being divorced from control and the consequent rise of the importance of the corporate manager and company directors. The implication was that this separation of ownership and control could result in the corporate managers taking business decisions and following their own personal objectives according to their agenda rather than implementing the wishes of the owners as represented by the shareholders.

A further issue, transaction costs, was identified by Coase (1937) who highlighted their nature and their importance. Transaction costs were associated with the external additional costs a firm incurs when dealing with markets through the use of contracts. They can be grouped into search and information costs, bargaining costs and the costs associated with costs of policing the contract. Later the identification of managerial opportunism and other opportunistic behaviour by Williamson (1976) deepened transaction cost theory. The implication of the developing theory was that firms exist as a means of minimising transaction costs. Once again the implication is that there is a

conscious individual will being expressed within firms who make such decisions and that the means by which firms address their internal administrative arrangements becomes a crucial question.

A third issue that has been highlighted is agency theory. In its simplest form, the theory discusses the relationship between two people, a principal and an agent. It is normally presented as the principal, the owner, and the agents those managers who take decisions on behalf of the owner. Principal-agent theory as it became known examined how the principal, the owner, could be confident that the agent, the manager, would act on the principal's behalf. Such a development forced the opening up of the 'black box' and the investigation of the workings of the firm itself.

The internal arrangements within firms and between firms has thus become subject to numerous studies. A highly influential work by Jensen and Meckling (1976) proposed a theory of the firm based upon conflicts of interests between various contracting parties, where attempts to resolve issues are through the use of contracts and associated incentives within the company to influence a manager's behaviour.

These researchers (ibid) state that contracts are used where, 'one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent.' If both of these bodies are people who maximise their own utility, there is no reason to suppose that the agent will always work in the best interests of the principal. Thus the principal may seek

to minimise any possible deviation by setting up inducements for the agent to reduce the agent's actions.

Hence a focus on an individual's contractual obligations and how outlays and rewards are to be shared amongst participants has grown in research importance. Thus there is recognition that the behaviour of individuals in organisations as well as the behaviour of managers is dependent on the nature of these contracts (Jensen and Meckling, 1976). And agency problems arise because of the impossibility of being able to design a contract that covers every possible course of action. McColgan (2001) states that managers bear the entire cost of failing to pursue their own goals but capture only a fraction of the benefits. Thus when managers do pursue their own goals independently, agency costs can thus be seen as value losses to shareholders. Jensen and Meckling (1976) calculate agency costs as the sum of monitoring costs, bonding costs and any residual loss.

Previously, the 'nexus of contracts theory' and the 'principal/agent theory' were used as the basis on which to argue particular views regarding the relationships between shareholder and owner, and those of management. New managerialist theories argued that a firm's behaviour was now deliberately aimed at the maximisation of managerial objectives with regard to firm size, growth, and sales maximisation, but under the chief constraint of profit (Williamson, 1964). It was rationalised that managerial objectives were essentially related with levels of managerial compensation and power.

On a slightly different track, Holmström and Milgrom (1994) saw the firm more as an ‘Incentive System’ stressing the significance of seeing the firm as a system of a coherent set of ‘complementary contractual arrangements which mitigate incentive conflicts’. They argued that it was deceptive to concentrate on any one solitary facet of the total as the company should not be characterised as being an entity where the employee did not own the assets, or was not subject to a proper system of incentives or subject to the sole authority of the employer. These ‘incentive instruments’, they argued, were purely complementary.

And finally Kreps (1990) utilises interaction interdependent game theoretic models arguing that both employers and employees are both involved in what might be termed a prisoner-jailer ‘dilemma-game’, where over time, a co-operative norm can be established, and that such norms or organisational culture informs not just the employees but also any outside agents that the management of the firm will not abuse their position. Kreps sees the firm not as a collection of physical assets but rather as something that acts as a carrier of reputation capital and seeks to protect such capital as well as seeking to diminish conflicting incentives.

In sum, this brief review of the literature on the essence of the theory of the firm with its focus on managerial objectives, agency theory and transaction costs underlie an approach to the firm that looks beyond the boundaries of the firm simply as a market phenomenon rather than the methods and operation of alternative possibilities for the allocation of resources (Knudsen, 1993). One ostensibly common denominator has often been marked

out by critics, and that is the work begins from a perspective that human nature is more diverse and complex than the conventionally assumed theory of economic rationality and profit maximisation. The essence of this is that theorists have assumed too often that contracting partners' opportunistic or morally dangerous behaviour occurs for economic reasons alone and this may not be the case if non-economic factors are considered as well.

3.2.1 Implications for the Study of Tax Evasion

Thus from the 1930's onwards, an important body of work began that suggested alternative problems that firms had to address. Firms therefore could now be considered as proactive rather than passive; populated with managers with a personal will and with corporate managers who had the potential to pursue objectives divergent from their owners; and that a firm's administrative structure was the means through which transaction and agency costs could be reduced. Indeed the varying managerial ability and the human ingenuity of managers to manage became paramount.

In the context of this thesis, clearly it is not only individuals who seek to avoid paying tax but also firms or more precisely their managers. As Jordanian firms act as collectors of tax for the government, they have an important independent role in the effectiveness of the social security system. Decisions may be taken by the managers to evade the payment of such taxes most notably the taxes to the JSSC for which they are responsible. Of

course, firms may not just evade paying indirect taxes, they may also evade corporate income tax, and other tax, which is ostensibly even more important (Slemrod, 2003).

In terms of tax evasion, firms or more accurately corporate managers, have to make the decision as to whether their firm should evade tax payment or not. Any legal responsibility in this is purely on them. Firms who are contemplating evasion will attempt to ascertain the benefits of providing certain contributions for their employees against the various costs that might be incurred. These costs might include: the direct costs of providing them with certain degrees of social cover; the cost of higher wages workers may require to work for an employer that does not contribute to a social system; the costs they will accrue in the attempt to conceal their actions as part of an evasion plan; and the expected monetary and reputational cost of paying a penalty if caught in the act of evasion (Bailey and Turner, 1997).

Legally, firms are not individuals *per se* although the decision makers are individuals. Firms are a construction made in law and acting as the focus for a series of multifaceted processes where contradictory actions and goals of diverse individuals clash within the structure of contractual relations in order to pursue a course of external action. Therefore, the behaviour of a company is influenced both by external and internal factors, both economic and non-economic. An understanding of tax behaviour requires ascribing motivations and intentions to the managers' activities (Jensen and Meckling, 1976).

At this juncture it may be appropriate to introduce the concept of moral hazard, a phenomenon closely linked to agency theory. A moral hazard arises where one party to a contract takes a hidden action that benefits him or her at the expense of another party. Clearly tax evasion is a clear demonstration of moral hazard in action. As the government cannot observe the actual tax behaviour of the firm or its efforts put in by its management to calculate or to pay the full amount of tax, the incentive to evade is increased. Moral hazard in action requires the principal, in this case the JSSC, to seek to avoid the deadweight loss of tax evasion. But not all firms are the same. The financial affairs of large firms are highly complex and much less transparent. On the other hand, it is comparatively easier for small and medium sized firms to hide their liabilities than to postpone the payment. Therefore, Kelchev (2006) suggests that under normal conditions, such firms are more likely to declare only what they intend or are capable of paying unless contingencies to minimise tax evasion are in place.

Sandmo (1975) outlined three possible solutions in designing an optimum tax structure. Firstly to design a system that minimised collection costs, secondly in terms of justice and fairness or thirdly in terms of minimising the deadweight loss of associated with inefficiencies such as tax evasion. In this specific case, the best tax rate could be the one that minimises the chance to evade payment managed by the chance of discovery and the associated penalty function.

It is in the next section which will introduce in detail the analysis of the Allingham-Sandmo basic model of tax evasion. It will seek to demonstrate how the level of evasion is determined and how this could be affected by the model's parameters.

3.3. The Allingham-Sandmoor (Basic Economic Model)

Based upon the economics-of-crime methodology pioneered by Becker (1968), Allingham and Sandmo (1972) formulated a formal economic model for analysing tax compliance based on EUT. Their model explains taxpayer behaviour as an evasion gamble between the economic rational taxpayer who is prepared to undertake prospect risk in order to avoid paying taxes and the tax agency. Therefore, the taxpayer balances the opportunity cost of being detected and likely punishment against the idea of maximizing his income (Sandmo, 2004).

In this model, it has been assumed so far that the decision by any taxpayer to comply with the tax law is independent of what other taxpayers are doing. This decision is based entirely on the enforcement policy and economic opportunities. In addition, no account is made of the taxpayer's "real" decisions; any labour supply and therefore any gross earnings are taken as given, and the same is true of income from capital. The model pictures the taxpayer at the moment of filling in income tax returns: how much of income should be reported and how much should be evaded?

The model assumes that taxpayers have an income on which they should pay tax at a certain rate. Taxpayers may choose not to comply and report a lower actual income and

evade a certain amount of tax, or they may choose to comply and report all of their income. Taxpayers know that there are tax audits and they also know the probability of the audit. The model assumes that (a) the probability of an audit is known to taxpayers, (b) tax authorities always find out taxpayers' true income in the case of an audit, (c) the probability of the audit is independent of one's reported income, and (d) there are only financial costs following detection.

Therefore, people rely upon these assumptions. When taxpayers evade payment they save money for future consumption if they are not detected. If they are detected, however, they are obliged to pay more than what was initially owed and thus have less money for future consumption than if they had complied in the first place. Taxpayers' utility will depend on the rate of the penalty and the amount of their concealed income.

To determine how tax evasion in varying degrees is affected by changes in the model's variables, there are three that must be considered as part of the study: the rate of tax; detection probability, and the fine rate. When looking at the chance of detection, the quantity of declared income increases, so an increase in the probability of detection lowers the level of evasion. This is an expected result, as a rise in the chance of detection reduces the reimbursement from evasion and makes it less attractive.

A amendment in the fine rate, however, merely changes income when a taxpayer is caught in the process of evasion. The result of a rise in fine rate is, therefore, that budget constraints turn on what can be referred to as the 'honest report point' and therefore

becomes more acute. A fine rate increase subsequently leads, therefore, to a lower level of tax evasion. This result, and the one previous, shows that the effects of detection and punishment on the evasion level are unmistakable.

The final variable to consider is the tax rate, an increase in the tax rate moves the budget constraint inwards. However, when absolute risk aversion is decreasing, the effect of the tax increase is to reduce tax evasion. This last consequence has been discussed widely because it seems counterintuitive. A high tax rate is often believed to provide a driving motive for people to evade paying tax, while the model predicts precisely the opposite. Why the result comes out as it does, is because the money paid by the consumer is determined by tax rate multiplied by fine rate. Any increase in the rate of tax therefore, has the effect of raising the fine. This action takes income away from taxpayers when they have been caught out; this is the very state where they have the least money to pay such a fine. It is through this methodology that, it is argued, a higher tax rate can reduce evasion.

It seems reasonable to assume that a higher gross income will increase evasion if it is believed that people become more willing to engage in risky activities as they get richer. This is also predicted by the model if the additional assumption is made that the measure of absolute risk aversion is decreasing. With regards to the effect of the regular marginal tax rate, a notable feature of the original A-S model is that an increase of the tax rate has an ambiguous effect on tax evasion. There is an income effect which is negative; higher taxes make the taxpayer poorer and therefore less willing to take risks. But there is also a

substitution effect that works in the direction of increased evasion. Yitzhaki (1974) pointed out that this result depends crucially on the assumption that the penalty is imposed on the amount of income evaded. If instead the fine is imposed on the evaded tax, there would be no substitution effect and accordingly no ambiguity.

However, The analysis of empirical evidence on the Basic Economic Model variables indicates that there is a strong positive relationship between higher audit rates and tax compliance (e.g. Witte and Woodbury 1985; Dubin and Wilde 1988; and Slemrod et al. 2001). Alm et al., (2004) confirmed that “tax audits are considered to have both direct deterrent effects on the taxpayers’ actually audited and indirect deterrent effect on taxpayers not audited”.

Regarding the tax rate, most empirical evidences report that a higher tax rate generally leads to more tax evasion (e.g. Crane and Nourzad 1992). Spicer and Becker (1980) conducted an experimental study with fifty-seven students, at the University of Colorado which identified that the percentage of tax evaded was the highest within the group of students who were told that their tax rates were higher than average, and the lowest within the group of students who were told their tax rates were lower than average. Slemrod (1985) found by using individual tax return information that people compliance decreases with higher tax rates and the proportion of taxpayers who cluster in the top of a tax-reporting category tend to increase modestly with marginal tax rates.

Christie and Holzner, (2006); studied tax compliance in a number of European countries, using national accounts data together with official tax structures, returns and revenues. They found that tax evasion is positively correlated with the tax rate itself. That is to say, a very simple policy implication would be that of reducing average effective tax rates. This should positively impact on compliance rates. In addition, Kumarasingam (2010) found that, high rates of tax on labour may discourage people from working, and so result in lower tax revenue than there would be if the tax rate were lower.

It is also posited that a heavy tax load is an important determinant of the black economy. Accordingly, increases in the effective tax rate enhance the possibility of a firm's willingness to operate in that black economy (Johnson et al. 1998 and Schneider, 2007). However, other studies such as Webley et al. (1991), Feinstein, 1991 and Friedman et al. (2000) did not find the same effect, meaning there was no significant conclusive impact of marginal tax rates on non-compliance. Generally, the theoretical economic model of compliance suggests that a higher tax rate will lead to higher TE problem.

More studies supported that tax rate, the audit probability, and the fine rate are very important policy variables. Friedland, et al (1978) conducted a simulation study with fifteen Israeli university students. They tried to find out the effects of fines and audits on tax compliance behaviour and they found that larger fines were more effective preventions than frequent audits. An increase in tax rate decreased the reporting income. In rounds where the random check was one third of the students and the fine three times the sum evaded, tax compliance was less than in rounds with a random check of one out

of fifteen and a fine magnitude of fifteen times the sum evaded. The empirical results suggest that tax authority should use the tool of fines instead of increasing the probability of auditing.

Cebula (1997) persuaded a new, updated insight into the determinants of the size of the underground economy¹¹ in the United States by using official data from the Internal Revenue Service (IRS) to determine the affect of (1) IRS tax-rate policies, (2) IRS audit probabilities, and (3) IRS penalty structure. The empirical evidence showed that the relative size of the underground economy is significant when correlated with an increase of marginal personal income tax rate and a decrease of both the IRS audit rate and IRS penalty assessments for unpaid taxes. The uniqueness of the Cebula study, unlike most previous studies was due to the inclusion of the social security tax rate. He found there was evidence that the social security tax rate payable by the self-employed may have contributed to the size of the underground economy.

Blackwell (2002) who investigated the influence of traditional economic variables such as the tax rate, audit probability and the fine rate, found an increase of the audit and the fine rate leads to more tax compliance. There is an inclination for higher tax rates to increase TE, but it is not significant.

Generally, some empirical studies demonstrate that the direction of the change in tax evasion as a response to different deterrence variables is not always consistent. Results

¹¹ The most important aspect of the underground economy is tax evasion problem

have a tendency to suggest that higher audit rates reduce tax evasion and that tax compliance is an increasing function of income and a decreasing function of the tax rate (Alm, 1991).

Theoretically, where there are low levels of audit and penalty, taxpayers are likely to evade taxes, if they were rational, because there would be a lower probability that cheats would be caught and punished. Nevertheless, a high degree of compliance is observed. In the following case, United States enforcement policies with regard to the percentage of individual income tax returns that are subject to be audited is fairly small and has decreased in recent years to a figure of roughly one percent. In the same way, the penalty likely to be paid on even fraudulent evasion is only 75 percent of unpaid taxes, and these penalties are rarely imposed. Civil penalties on non-fraudulent evasion are even lower (20 percent of unpaid taxes) but in spite of this fact, the majority of American taxpayers actively comply with the tax law (Alm, 1998).

Finally, it is clear to many researchers, that tax evasion cannot be explained entirely by the tax administration deterrence policies and its financial incentives (Graetz and Wilde, 1985; Smith and Kinsey, 1987; Elffers, 1991; Alm, et al, 1992; Cowell, 1992 Andreoni et al., 1998). The researchers suggest that the compliance behaviour must be influenced by other variables, more than that reported by the Basic Economic Model because the main problem with EUT analysis of tax evasion is that it considerably over-predicts the extent of TE (e.g. Dhami and Nowaihi, 2006).

To summarise, this approach suggests that the chance of being caught and the size of the penalty in the case of being caught, negatively affect the amount and extent of tax evasion. Perhaps more importantly, the model assumes that the probability of any tax audit and the size of the given penalty are independent of each other. The conclusion can be drawn that the penalty rate and the probability of incurring deductions substitute for each other. Instead of the expensive policy of increasing the number and frequency of tax audits, by increasing the size of penalties, evasion could arguably be just as easily discouraged. Thus, the policy tools available to tax authorities for the purpose of combating evasion are the actual rates of tax themselves, increasing the probability of the auditing process and structure of the penalty system (Elffers, 1991).

In spite of the criticism of the Basic Economic Model, one might ask why most of the economists who adopt the Basic Economic Model insist on working with it. Cowell (1992) answers the proposition by declaring: “Even if tax evasion is not a gamble... it is still a risky business. If it was not, then either the detection of non-compliance would be immediate and certain....or alternatively non compliance would never be punished; so, it seems that people's reaction to risk is found to be a fundamental component of any comprehensive model of tax evasion”.

The next section turns to discuss the issue of determining the optimal levels of auditing and punishment when the behavior of taxpayers corresponds to the predictions of this model.

3.3.1. Compliance/Detection and Punishment Issues

Tax evasion is considered a criminal activity by the tax authority. Becker (1968) was the first economist to develop the basic economics of crime methodology. He identified criminal activity as a rational human decision dependent upon the probabilities of auditing, conviction and levels of punishment. Becker believed this methodology could be applied to Tax Evasion and Tax Avoidance.

The main aim of Becker's investigation was to make an effort in determining the "optimal" choice of punishment strategies. The researcher's intention was to find out to what extent resources and punishment should be used to enforce different types of legislation (Sandmo, 2004). To answer this question, he required a positive theory of criminal behaviour which he presented as a rational utility-maximising decision-maker; this has become the most significant part of his analysis.

In Becker's model, people will be involved with a crime if the expected utility from the crime exceeds the utility from engaging in legitimate activity. He says that "Some people become "criminals," therefore, not because their basic motivation differs from that of other people, but because their benefits and costs differ" (Sandmo, 2004).

The analysis of the tax evasion decision assumed that the probability of detection and the rate of the fine levied when caught evading, were fixed. This is a satisfactory assumption from the perspective of the taxpayer. From the government's perspective, though, these

are variables that can be chosen. The probability of detection can be raised by the employment of additional tax inspectors, and the fine can be legislated or set by the courts (Hindriks and Myles 2008).

Any rise in the level of the fine will therefore raise revenue if tax evasion is taking place. Of course, the fine has no consequence if there is no act of evasion. These terms show that if evasion is taking place, there is an increase in the chance of detection or the fine will increase government revenue.

The government's problem can now be dealt with. It has been mentioned that a rise in detection probability is achievable if there is the recruitment of more tax inspectors. Tax inspectors require compensation, and so one consequence of employing more tax agents is a rise in probability of detection but at a cost. On the other hand, there is no cost involved in increasing or decreasing the fine. What this means is that raising the fine rate is essentially costless. These observations, can therefore, form the basis of a policy that will optimise revenue collection, and minimise the level of evasion. Therefore, it can be argued that government need not pump revenues into tax evasion, but should maximise the level of fine to deal harshly with those it catches. This is, of course, an extreme policy, and it is notable that no such policy in existence, even though the model points towards this being the mostly highly effective—and cost-effective—method of dealing with tax evasion (Hindriks and Myles 2008).

Much can be said about these conclusions. The first of these must deal with government objectives. There is ostensibly, a noticeable difference between policies designed to maximise revenue and those that maximise welfare. For example, inflicting an unsupportable fine on a tax evader will have a notably negative impact on that person's welfare. Even if a government does not pursue such a policy, there are considerations that may act as restraints on fiscal recovery projects such as the very real political need for governments to be popular in the run up to an election. With policies such as these, they might prove exceptionally unpopular with the voting public (Hindriks and Myles 2008).

This could be argued, at least from a non-partisan approach, as being irrelevant, as, if the sentence is sufficiently large enough to deter evasion, it should not matter to those who are unaffected as to the severity of that sentence. If fear is able to completely prevent evasion, the sentence is never actually inflicted and its cost is irrelevant. The problem with this, is that it ignores the risk of those who will evade no matter what the fine level might be, and the chance of error. The detection process may not work adequately, or a taxpayer might erroneously understate their taxable income. If the punishment is so great, even for small tax underpayments, then errors could be very expensive in political terms for a government. To reduce the chance and cost of error, the sentence should be small enough to deter cheating. Arguably, minimal deterrence accomplishes this purpose adequately.

Finally, putting all of these arguments together suggests adopting a different perspective on choosing the optimal probability of detection. With a tax rate fixed in economic policy

and a fine level set by discussion between the administration and the judiciary, the sole aspect completely under the control of the revenue service is the probability of detection. As has been already noted, any increase in fine raises revenue, but only at a cost. Optimal probability exists when marginal gain in revenue merely equals marginal cost. This action could occur at a very low percentage of the probability of detection (Hindriks and Myles 2008).

Generally, when taxpayers have to pay taxes, but, for one reason or another, fail to do so, they break the law and have to face sanctions. Tax agencies that collect tax or social insurance have to have the possibility of being able to enforce compliance and payment of social security contributions. Additionally, higher interests, fines, or even criminal sanctions may be prescribed by law.

Revenue agencies can begin enforcement procedures for basic debt, or the unpaid contribution, with a certain degree of interest. This could be carried out in agreement with civil law, and special administrative procedure, or even, indeed, following tax recovery procedure. This interest would also be paid into the contribution collection systems and not general government fiscal funds.

The interest for non-paid contributions or for late payment, has two functions. It should guarantee that the contribution retains certain value (the value of money decreases through time), and guarantee financial discipline (the punitive part of this kind of interest). Fines have to be high enough so that people would rather pay social security

contributions than high interest. On the other hand, they should not be too high, so as not to discourage voluntary payment. It is important that the payment of due contributions with interest are able to be forced in a court procedure(Grega Strban 2007).

Moreover, those taxpayers who do not comply with their contributory duty or who do not allow an inspection, should be liable for misdemeanour fines. This system of fines may be set differently for employers, for those responsible within a company, the self-employed and others in various roles within organisations. Once more, penalties should not be set at too high a rate, but high enough to deter. An employer should not obtain further profit by paying tax or social security contributions at a later date with interest, than for paying fines when they are due to be paid. All enforcement should be carried out at the appropriate time. Company compliance with revenue collection could be made easier by allowing those liable for contributions are aware that that there is a monitoring system, that they are being monitored and any delay in payment will be met with a quick and harsh response. Improving enforcement times and responding in the same repeatable way each time will ostensibly improve effectiveness, accuracy and efficiency.

3.4. Extensions and Modifications of the Basic Model by including more Economic Factors

However, more recent studies added more economic factors to improve the predictive power of the Basic Economic Model. In a large number of cases the probability that the firm will be discovered not complying with SSPS is largely decided upon by the chance that one or more of their employees will report any actions of this kind. Therefore, one of

the most important factors for an employee reporting firm's non-compliance is the unemployment rate and the likelihood of the employee finding alternative employment if they lose their job as a result. Empirical results support this, for example, Yaniv, (1994) investigated employees decisions to complain about evasion as a function of the labour market (employment level) and regulation promoting compliance. The empirical evidence of his study indicates that employees would decide to complain to the authorities about being paid as long as they have a chance of getting another job.

Awad, et al, (1998) examined the relationships between a number of factors and variables, including compliance with the minimum wage law in Israel. The researchers concluded that, "A higher unemployment rate apparently decreases employers' fears of workers' complaining about being paid below-minimum wages, therefore encourages reduced compliance".

Furthermore, the possibility that employers may evade social security contribution arises from the fact that compliance with the scheme reduces profits gained from productive activity. Consequently, in SSS where employers pay on behalf of their employees; labour-cost reduction could be the most important incentive to evade Social Security contributions (Mcgillivray, 2001).

Moreover, the amount of current consumption needs can lead employers to try and evade the payment of social security contributions, especially when the contributions rate is high, during times of temporary financial hardship. This is particularly the case for new

employers, or where expenses related to urgent responsibilities are more immediate and pressing than paying taxes for a future retirement benefit (Mcgillivray, 2001).

Carroll (1986) carried out a survey study of criminal behaviour. She noted that lack of money often motivates the search for an opportunity to commit a crime. Therefore the taxpayers' tendency to evade will be greater in the case of economic strain where the taxpayer's expenses are higher than their income.

Another study conducted by Ritsema et al (2003) provided evidence by using data from the 1997 Arkansas Tax Amnesty Program that morality was not an important reason to pay during the amnesty period and the lack of money at the time taxes were due was the main factor in the decision to evade. Also, Strban (2007) studied contribution evasion problems in former Yugoslavia – particularly in Serbia, Macedonia, Bosnia and Herzegovina, and found that poor financial performance in business appears to be the main reason why employers do not pay contributions. Sometimes employers decide to save costs by bribing officials rather than pay the requisite contributions.

Furthermore, the role of accountants has been studied by tax compliance literature which focuses mainly on the compliance level of taxpayers who used tax agents and on factors that influence accountant's behaviour. Many researchers demonstrate that the level of non-compliance is higher for those who used paid assistance (e.g., Erard 1993).

On the other hand, other studies attempted to examine the role of paid accountants might play in the analysis of tax evasion (Reinganum and Wilde, 1991; Beck et al. 1994). Roth, et al (1989) state: “Great knowledge about the relationships between tax practitioners and taxpayer compliance could offer one of the most promising areas for improving compliance”. Sometimes, tax law and regulations can be manipulated by the taxpayer and accountants in a creative way. They consider this a great opportunity to exploit the law to transform the firm’s own financial interests. However, this use depends on the accountant’s knowledge and information and on the level of complexity of the tax laws and regulation.

Generally, taxpayers who aim to reduce their taxes and who are high-risk takers will find many accountants to assist them (Sakurai and Braithwaite 2001). A rational taxpayer will compare the marginal benefits, which can be acquired with the use of tax accountants, with the marginal cost. Long and Caudill (1987) have been among the first to examine the role of accountants on tax compliance. They state that benefits would include such things as time saving and a reduction in tax liability based on an accountant’s better understanding of the tax law. They stated that: “The age and growth of the tax return preparation “industry” is probably the strongest evidence of its ability to provide beneficial services to taxpayer-consumers, and it is doubtful that anything except “radical” tax reduction and simplification will seriously threaten its existence”.

3.5. Extensions and Modifications of the Basic Model by Including Non-Economic Factors

Apart from the financial incentives that influence tax evasion behaviour that is based on economic literature, there are other factors that assume a vital role and have been studied in the fields of sociology, psychology, and legal literature (Cowell, 1990). In addition to this, the enhancement of a tax agency's public image and its fair treatment of taxpayers could assist in an increase in compliance and so could explain why tax evasion behaviour may not be possible only by looking at the financial inducements of the tax system alone.

As is clear below, it is plain that recent economic models have added non-economic factors related to taxpayers' compliance decision-making behaviour (e.g. Torgler and Schneider 2007) and extended previous models by establishing the extent to which informal and formal institutions are important in determining tax evasion problems.

New institutional economics defines institutions as “the necessary framework for human interaction or as the rules of the game”. These human-made constraints determine incentives and shape human interactions (North, 1990). This discipline differentiates between two types of institution: formal and informal. Formal institutions include tax authorities, laws, and rules, while informal institutions include norms of behaviour and established conventions. A combination of formal rules, informal norms, and enforcement characteristics determines economic performance. In general, when formal and informal institutions are in conflict; it is here that more tax evasion is observed

(Gërxhani, 2003). While the laws and rules may be changed for a brief period of time, informal norms usually change only gradually.

Everest-Phillips (2008) points out five characteristics of a state that has constructed a workable tax system. This system requires political inclusion (i.e. paying taxes incentivises workers to engage with government and the political process and so strengthens the democratic process), accountability and transparency (i.e. the use of tax revenues is warranted to tax payers), perceived fairness (i.e. tax payers distinguish the tax system as being fair which is the case if tax exemptions for special interest groups and the unofficial economy are reduced to a minimum), efficacy (i.e. administrative capability that translates public revenues capably into public goods) and the political commitment to shared wealth (i.e. the tax system must be linked to the national strategy of promoting economic growth and prosperity).

Generally, the size of a country's tax shortfall will also depend on the range and efficiency of the national tax administration. When applied to developing countries, this suggests that an increased transfer of resources to the national tax administration could help reduce the national tax shortfall. Yet, some claim this faith to be naïve with respect to developing countries (Bahl and Bird, 2008).

The next sections analyse the extent of important insights which can be obtained by including formal and informal institutions for the purpose of evaluating what factors determine tax evasion.

3.5.1 The Effectiveness of Tax Agency and its Administration

The aim of this section is to present an institutional analysis of tax evasion. In particular, this section aims to show that tax compliance literature is influenced by Game Theory (GT) which means to integrate the tax agency as a player in game theoretic strategies. Both government and tax agencies understand that they must keep up-to-date with taxpayers' calculations of payoffs by changing the costs and benefits of the tax evasion.

Researchers criticise the Basic Economic Model on the grounds that the probability of detection is expected to be random and tax administration is not allowed to use data from taxpayers' returns to determine whom they should choose as eligible for audit. In reality, tax administration performance might be improved in its ability to identify tax evaders, if it benefits from the transmission of information from taxpayers rather than if it just ignored the information and audited all taxpayers with equal frequency. The evidence suggests that the tax administration is rather more interested than taxpayers to behave in a rational manner that aims to optimise its performance (Alm, 1999). Accordingly, GT concepts allow the tax administration to modify the strategy of the audit and the enforcement with regards to the information discovered in the taxpayers' report and so includes the tax authority as a strategic actor in the model.

GT has become important for economic analysis, and a large degree of the development in this field has come from inside the profession of economics. The object of study in GT is the game itself, which is a formal model of an interactive situation. The formal

definition sets out the players, what they prefer, their information, and the strategic choices available to them, and how these might influence the outcome. The strength of GT is the very methodology it creates for structuring and analyzing problems of strategic choice. A situation as a game requires the decision-maker to explicitly quantify the players and their discipline required in the construction of such a model. It has the potential of providing the decision-maker with a clearer and broader view of any situation (Chris Georges, 2009).

There are two main areas of GT: cooperative and non-cooperative GT (Levin, 1999). Cooperative GT investigates coalitional games with respect to the amounts of power held relatively by opposing players, or how a successful coalition should divide its takings. This is perhaps most obviously applied to situations that come up in political science or international relations, where concepts such as power are most important. In contrast, non-cooperative GT is concerned with the analysis of strategic choice. The paradigm of non-cooperative GT is concerned with the details of the ordering and timing of players' choices that are crucial to determining the outcome of a game. A non-cooperative bargaining model argues for a specific process which pre-specifies who makes an offer at a given time. The term "non-cooperative" means this branch of GT explicitly models the process of players making choices out of their own interest. Cooperation therefore, can, and often does, arise where non-cooperative models of games exist, and when players find it in their own best interests to follow certain paths (Levin, 1999).

Theory also differs in players' assumptions. A central assumption in many variants of GT is that the players are rational. A rational player is one who always chooses something which results in the outcome the player most prefers, given what they expect their opponents to do. The goal of GT analysis in these branches, is to predict how the game will be played by rational players, or, related to this, to give advice on how best to play the game against opponents who are rational. This kind of GT can be viewed as rather more “descriptive” than the prescriptive approach taken here (Georges, 2009).

Aspects of cooperation have been taken into account in GT because the GT of tax compliance can yield results both distinct from and richer than models that incorporate only the taxpayer. Incorporating the tax agency into a GT analysis of tax evasion provides greater opportunity for insights and predictions that are actually not possible in the Basic Economic Model of law enforcement. The tax agency and taxpayers interact in sequential moves in the assumption of the actions of this model. First, taxpayers report their income; then the tax agency determines whether to make an investigative audit. If the taxpayers are not audited, their report determines their final tax liability; if taxpayers are audited, their tax liability is calculated on the basis of true income, plus any appropriate fines (Alm, 1999).

Graetz, et al (1986) stated that, incorporating the tax authority into an economic analysis of tax evasion requires explicit assumptions about specific tax authority behaviours so as to identify the kind of behaviour that it will take in response to actions taken by the taxpayers themselves. It is assumed that the tax authority strategy attempts to maximize

total government revenue, including taxes, and penalties, as well as reducing net audit costs.

Tax agencies play very important roles in influencing behaviour toward tax compliance and the implementation of the law. An agency's ability to collect taxes depends on its organization, institutional infrastructure, and operations, including access to sufficient financing and additionally depending upon cultural factors, economic conditions and legal mandates (Vazques-Caro et al 1992). Therefore, the integration of other factors such as institutional variables is crucial to understanding SSTE. McGillivray (2001) stated that “A lot of attention is paid to the design, structure and administration performance of contributory social security schemes. However, unless an administrative operation is well implemented, all other aspects of the scheme are irrelevant”.

One of the main responsibilities of any SSPS is to be structured in such a way so as to encourage participation and promote the goals of SS insurances within an efficient and equitable system. In reality, if participants do not recognize the requirement to contribute to the SSS to provide financial stability in old age, and if the tax agency cannot influence them to do so, evasion is a likely result. McGillivray (2001) stated that, “Evasion of social security contributions is possible if the social security organisation tolerates evasion or if it does not have the authority or resources to enforce compliance with the statutory contributory provisions”.

- Efficiency of the social security system

One of the main problems of many countries, however, especially in developing countries, is the limited capability to collect social security contributions. Thus, many countries are faced with the challenge of reforming the SSS and its administration. In the implementation of the social security law, the Social Security Corporation plays a key role. Many researchers point out that tax administration is tax policy (Casanegra and Bird, 1992).

Several studies, particularly in the USA and in other developed countries, revealed many examples of the influence of the Institutional aspect such as efficiency on tax evasion. Friedman et al. (1999) found that “the positive relationship between the share of the unofficial economy and the ineffective institutions is strong and consistent”.

In addition, it could be argued that dissatisfaction with the SSS administration or a generally negative attitude towards the tax system might increase the incentives to talk to individuals to get a better idea about the opportunities to evade and the probability of getting caught.

Cummings, et al (2001), analysed taxpayer behaviour among different cultural backgrounds in three different countries (U.S., Botswana and South Africa) which have similar tax systems. They found different compliance rates between these countries which were not related to differences in risk attitudes across these various countries but was

related rather, to the differences in tax institutions instead (tax agency performance and behaviour).

In addition, Kelchev (2006) concluded that the aims of reducing the hidden economy should be included more in tax administration than in tax policy. He emphasised that a decrease merely in tax rates, without the development of a modern, efficient administration oriented towards better quality of services, can only reduce the level of evasion of taxes and social security contributions to a limited extent.

- Equity of the social security system

As mentioned above, a number of economists have criticised the Basic Economic Model on the grounds that it takes a rather narrow minded view of tax evaders' (Cowell, 1992). Subsequently, the Basic Economic Model has been expanded to incorporate taxpayer's perceptions of the equity of the tax system.

Literature shows that reciprocity is considered as an important determinant for compliance behaviour. The likelihood of compliance could be increased by positive behaviour undertaken by the tax agency towards taxpayers. On the other hand, the likelihood of tax evasion can be seen as result of negative reciprocity. For that reason the influence of the institutional environment on the control of positive and negative reciprocity is a most important issue.

Many researchers underline the importance of reciprocity. Cowell and Gordon, (1988), stated that, people pay taxes because they compromise what they get for their taxes, and they are ready to pay more as far as tax agency commitments go to provide them with good services. The relationship between taxpayer and tax agency is modelled as an implicit contract. Positive actions by the tax agency are encouraged to increase taxpayers' compliance behaviour. Smith and Stalans (1991) stated that, the most significant social psychological explanation for expecting cooperation is reciprocation.

Cowell (1992) reveals that economic analysis can bring about the same results as psychological research if the patterns of personalised inequity are integrated into the Basic Economic Model. Taxpayers will therefore increase tax compliance when perceiving equity. He did, however, argue conversely that: "The issue of inequity, according to virtually any interpretation one may give to the term, is essentially a matter of social interaction rather than being individualistic in nature". He defined inequity as "an unfair exchange' between citizens and the State, as unwarranted disparities in tax assessments, or as perceived income inequality".

Furthermore, Cowell (1992) proposed that perceptions of inequity may be measured; with respect to the taxes imposed, to the income of others in the community and to the supply of public goods and services. According to Cowell, the interaction between taxpayers' perceptions of inequity and their attitudes to risk, as this is argued in the Basic Economic Model, have an effect upon tax compliance. Wenzel (2002) studied the impact of justice perceptions on self-reported tax compliance behaviour. Using a survey methodology,

Wenzel found that Australian taxpayers reported being more compliant when they thought they had been treated fairly and respectfully by the Australian Taxation Office (Tax Office).

Generally, an unfair tax system could create greater incentives to justify cheating. Even though, Social psychological research suggests that a lack of equity in an exchange relationship produces a sense of distress (Walster, et al, 1978). A number of survey research studies have reported positive correlations between perceptions of fiscal inequity and non-compliance (Spicer 1974; Song and Yarbrough 1978; and Richardson, 2006).

Employers may try not paying their social security taxes if they lack trust in the SSS. For example, if the legitimacy and equity of the scheme are under question and there could be a better rate of return on contributions placed elsewhere, this may encourage them to evade payment.

The sociology literature contains two basic perspectives on compliance: instrumental and normative (Tyler, 1990). From the instrumental perspective the key variables determining compliance are the severity and certainty of sanctions, and from the normative perspective, the key variables determining compliance in the normative perspective are individuals' perceptions of the fairness and appropriateness of the law and its institutions. Therefore, the researchers pay more attention to the fundamental issues of institutional design. Institutions in society should devote great effort to developing legitimacy. It

seems that efficiency and equity may be complements instead of substitutes, at least in the context of institutional design and implementation.

Some psychological theories of leadership, argues that legitimacy depends in large part on the authority's ability to provide favourable outcomes. That is, people perceive as legitimate and obey the institutions that produce positive outcomes for them. However, other evidence indicates people place great importance on procedural issues. The principal result of Tyler's (1990) study is that the perception of legitimacy is closely linked to people's views of the fairness of the procedures used by the authorities. More strongly, he demonstrates that the people he studied comply more with the law if the procedures employed by the legal or political authority are perceived by them to be fair.

In compliance literature, there are four sets of an authority's characteristics which are associated with legitimacy. Two are related to the tax authority's outcomes, and two are related to the processes of the authority. Two are related to matters of justice, and two are not. The first of these matters: the effectiveness of the outcome, may involve the extent to which conservation is realized and a taxpayer is made better off. The second, distributive justice of the outcome involves the perceived fairness of how the benefits or sacrifices are shared among the affected parties. The third, efficiency of the process, involves the speed and efficiency with which taxpayers perceive the tax authority responding to problems within the scope of the authority's jurisdiction. The fourth, procedural justice involves how fairly the authority treats people and the concerns of those affected by the process (Sutinen and Kuperan 1999).

Tyler's research (1990a, 1990b, 1997) emphasises the importance of legitimacy and allegiance to authority in compliance decisions. He found that, the way people are treated by the tax agency affects their evaluations of authorities and affects their willingness to co-operate. Feld and Frey (2002) claim, "If they treat taxpayers as partners in a psychological tax contract, instead of inferiors in a hierarchical relationship, taxpayers have incentives to pay taxes honestly".

Another study by Smith (1992) attempted to study positive incentives that increase citizens' normative commitment towards tax compliance. Smith pays more attention to aspects of reciprocity, legitimacy, and procedural fairness for tax compliance and he found that positive incentives lead to more commitment towards tax compliance as a result of responsive services and procedural fairness.

Pommerehne, et al (1994) studied the relationship between a government's public good provision, governmental waste, fairness considerations, and taxpayer compliance, achieving the same result which is that there is a necessity to adjust the output of good public provision to people's needs.

- Corruption and Lack of trust in the tax administration

Some economic researchers have taken into account the aspect of institutional corruption. Kasper and Streit (1999) stressed that, "Strong institutional controls and accountability are required to control deeply-rooted agent opportunism. The rule of law has to be

imposed on all government agents”. Therefore, another institutional determinant of tax evasion is the problem of bureaucratic corruption in tax administration. One analysis found that an increase in the tax rate creates lower net revenue, when auditors are corrupt and enforcement costs are minimal. Actually, in this case, it would be preferable for the tax agency to set lower audit probabilities and allow some cheating (Gang et al, 2000). If corruption is low enough, however, revenues generated from capturing taxpayers cheating may exceed those from selecting an audit structure in which everyone declares their true income.

The incentives of enforcement agents to find out violations have been investigated by Polinsky and Shavell (2000). They emphasised the importance of this topic for two reasons: Firstly, the incentive of enforcement agents to find out violations is influenced by the structure of their payments. Secondly, it is possible that enforcement agents are corrupt and might take payments in exchange for not reporting violations. The standard models of optimal tax systems assume all bureaucrats are benevolent and have no thoughts of using the tax system to their own advantage.

Frey and Eichenberger (1999) indicate that developing countries are often in a state of “over-government” and “under-government” (There is substantial combination of interventionism and bureaucracy). The government has strong discretionary powers over the allocation of resources which increases corruption. Thus, corruption affects the magnitude of resource allocation and income distribution (Jain 2001). In a corrupt bureaucracy, goods and services will not be awarded to the most efficient or efficient

producers, but to the producer who offers the largest bribe. Further, bureaucrats have an incentive to delay transactions in order to take out higher payments (Rose- Ackerman 1997).

Levin and Satarov (2000) examine the influence of corruption on institutional performance in Russia. They conclude that corruption is an important part of Russia's economy but that corruption has a negative influence in that people have a reduced confidence in the authorities.

These findings were rationalised by Choi and Thum (2005) they point out that the choice of entrepreneurs of whether to escape to the shadow economy or not, restricts corrupt officials in their desire to ask for bribes. Dreher and Schneider (2006) explicitly accounted for a relationship between corruption and the black economy in high-income and low-income countries. Moreover, they modeled the effect of the reverse relationship from the black economy to the level of corruption. They found that dishonesty and the black economy are complements in low tax countries: i.e. increases in the black economy challenge political and social institutions and augment corruption. On the other hand, for high-income countries, the authors found that a higher shadow economy goes hand-in-hand with reduced corruption.

When the employers pay the employees' taxes directly, handling those transactions becomes significant and depends heavily on employers' record keeping. Fewer people and businesses would evade, no doubt, if record keeping were more mechanical. Less

corruption would probably be detected if employers had to go through the scrutiny of cross checks and audits (Gary and Mitchell, 1995). Therefore, a lack of coordination between the tax authority and other governmental bodies is bound to increase tax evasion. Alm, et al, (1996) suggest that information sharing, could thus increase agency revenues and reduce tax evasion.

Investigations into the influence of trust on tax evasion decision behaviour has also been carried out. In general, the results show that if taxpayers are more trusting of the tax administration, they are more likely to be willing to be honest. The relationship between taxpayers and the tax agency can therefore be seen as a contract sustained by the positive actions of the tax agency, and based on trust. This trust can only be produced if tax agency's commitment acts in line with people's needs and desires, and thus is very important for any tax administration wanting to influence people's behaviour towards positive tax compliance (Hardin 1998).

Survey findings of Yankelovich, et al (1984) indicated that the Internal Revenue Service (IRS) in US may face credibility problems because only 58 percent of the individuals agreed that the IRS and its employees are knowledgeable, while 37 percent do not. The same results are found for the perceived fidelity (59% versus 38%). This problem emerges to stem from the IRS's relationship with the tax system: the majority of the individuals considered the IRS's system complicated and unfair. It also may permit for a variety of tax-loopholes that enhance the view of a biased and unfair tax system.

Briefly, high degrees of evasion can be seen by some experts as a result of low public credibility of SSS and reflect the quality of organisation of the scheme and the efficiency of a schemes administration.

- The effect of information, education and Technology on compliance

Furthermore, this thesis tries to pay more attention to the effect of information and Technology on the tax evasion problem. Basic Economic Model of tax compliance take for granted that taxpayers are completely informed of all the aspects that cover the tax law and procedures. However, this is not true as the level and quality of knowledge and information provided by the tax authority might be a significant determinant in taxpayers' behaviour.

Researchers have been making an effort to incorporate asymmetry of information over tax administration policies in order to achieve a better understanding of the evasion problem. Vogel, (1974) for example, examines the determinants of taxpayer attitudes and tax ethics in Sweden. The study concludes that, "taxpayers usually need more tax structure information than that provided by the tax forms in order to complete their returns".

Survey results also make clear that the less educated component of the sample was: (1) Less exposed to tax compliance information, (2) less informed about relevant tax regulations especially deduction authorizations, and (3) more often in need of assistance

in return preparation than members of the sample generally; This pattern suggests that lower socio-economic groups are less able than others to take advantage of available tax minimisation opportunities.

Spicer and Thomas (1982) examined whether more accurate information provided by tax agencies lead to more opportunities to changes in the audit probability. The results indicated that the percentages of taxes evaded were negatively and significantly correlated with audit probabilities. They stated that in the absence of accurate information, people drew less attention to the amount evaded.

Witte and Woodbury (1985) found that evasion is lower with those who are better educated. Additionally, they concluded that, the main variable which motivates taxpayers to search for tax information is the relevance of information. This motivation might depend on taxpayers' financial situations, for example, self-employed taxpayers, have higher likelihood to commit tax evasion and thus have the motive to search for more information about the tax law.

Generally, tax compliance literature indicates education, which is related to taxpayer's knowledge about the tax law could be an important determinant for tax compliance. Better educated taxpayers are supposed to know more about tax law and regulations, they are better aware of the benefits and services the tax agency provides for the taxpayers and so would be in a better position to evaluate the extent of compliance (Lewis 1982 and Houston and Tran 2001). On the other hand, educated taxpayers could also be more

knowledgeable of possible government inefficiencies and may be less compliant because they are more aware of the opportunities for evasion and avoidance.

A developing area of research has begun to analyse how computers might influence tax evasion decisions. In many countries, the tax administration attempts to develop computerised tax decision support systems. These systems might reduce the requirement for tax accountants. The key advantages are that they supply technical knowledge, especially relating to tax law and regulations, and help to notify taxpayers if they make certain types of error (Masselli et al. 2000). Masselli et al. (2000) analysed the influence of computerised audit flags (information about specific audit mistakes) on taxpayers' compliance behaviour. Their findings proposed that taxpayers who are shown audit flags reported significantly more income than taxpayers without audit flags. They argue that people with low tax task experience will be likely to over-rely on decision assistance as a result of a lack of knowledge.

In addition, modern information systems could lead to the identification of potential taxpayers. Das-Gupta and Mookherjee (1995) investigated reforms in India aimed at computerising the information system with basic taxpayer identifications. They found that computerisation has the following benefits:

“(1) a tamper-proof, readily accessible and updateable information base on the identity of taxpayers, their payment records, and third party information; (2) cross-matching of information from different sources concerning the activities of any taxpayer, (3) efficient

collection of tax recovery operations; (4) sophisticated audit selection programs and enhanced information on taxpayer activities speedily available to tax auditors during audits; (5) less corruption owing to reduced scope for person-to-person contact between officials and taxpayers, and reduced auditor discretion over conduct of audits; (6) improved taxpayer information and assistance services; and (7) a comprehensive information base for managerial planning and supervision”.

However, in spite of many advantages for using computerised tax decision support systems they also incorporate some deficiencies. For example, the collection process may cause some difficulties, imposing high costs and therefore generating a lower amount of tax revenues (Masselli et al. 2000).

In addition, computerisation needs adequate knowledge. The process of computerising the tax administration could face difficulties due to deficits in staff training and hardware/software maintenance and is dependent upon information inserted into the programme. This emphasized the importance of regularly training tax administration staff from the lowest to the highest level (Silvani and Baer 1997).

To summarise, this section analyses the extent of important insights which can be obtained by including issues of tax administration into the focus of the theoretical literature on tax design and examines their link to tax evasion for the purpose of evaluating what factors determine tax evasion. The literature concludes that there are key indicators which have an influence on tax compliance, namely, the effectiveness of the

tax agency, perceived honesty and fairness of tax agency and the perceived help and information firms get from the tax agency.

3.5.2 The Legal and Regulatory Structure

The intention of this section is to show the relevance of tax law and regulation and to explore related areas such as tax complexity as key players in the tax evasion problem. Rules might be a good reason why people behave co-operatively instead of behaving consistently with the Basic Economic Model of tax evasion.

The behavioural implications of imperfect choice have been studied by Heiner (1983) who argued that rules are put into place because the mere existence of rules automatically restricts certain behaviour and regulates choices into predictable patterns of activity and behaviour. Heiner assumes that there “is a gap between an agent’s competence and the difficulty of the decision problem. The gap is influenced by two variables: environmental variables which determine the complexity of the decision problem, and perceptual variables which characterise an agent’s competence”. According to Heiner, uncertainty is negatively related to the perceptual abilities and positively to the complexity of the environment. Consequently, the study indicates that such an analysis can provide a better understanding of the behavioural consistency with rules.

Many researchers report that complicated tax laws is significantly related to tax evasion and it is one of the main determinants of tax evasion (e.g. Richardson, 2006). Taxpayers

may evade paying social security contributions because of the complexity of compliance procedures. Sometimes split-contribution assessment and collection arrangements for different social security benefits and multiple collection agencies to which contributions must be allocated and remitted make compliance more difficult and evasion more attractive and possible (Mcgillivray, 2001).

On the other hand, in the light of tax complexity, it is not easy to identify honest taxpayers from those who are not. Krause (2000) stated that when rules are complex, compliance and enforcement will be imperfect. It implies there will be extra costs on the taxpayers and the tax agency and this weakens the effectiveness of the tax policies. Tax inspectors in the tax agency will have greater problems in distinguishing non-compliers and determining whether the violation was intentional or not (Erard 1997). This can increase tax collection costs. Furthermore, the ambiguity of tax laws can lead to a wide range of interpretations (Krause 2000).

Additionally, taxpayers' perceptions about the tax systems equity can be influenced by tax complexity. By simplifying the tax law and its regulations taxpayers would be able to reduce their cost in time and money and conform to the tax law (Blumenthal and Slemrod 1992).

Smith (1992) used data from a national survey of taxpayers conducted by Louis Harris and Associates to study, among other variables, the influence of tax system complexity and procedural fairness by the IRS in US. What is indicated is that complexity

significantly decreases the perceived procedural fairness within the IRS. Moreover, individuals believed that the simplification of the whole tax collection system is the most effective way of better-collecting tax revenue. Conversely, Forest and Sheffrin (2002) did not find a systematic relationship between perception of complexity and perception of unfairness.

Tyler (1997), however, argues that understanding what people need in a legal procedure helps to explain why people become dissatisfied with the law and points towards solutions for building public support.

Alm et al, (1993; 1999) analysed the importance of how tax law and regulations were implemented. They concluded that, there is a considerable difference between those tax rules which have been implemented by a legitimised political process and those imposed by a political process which is not to a greater or lesser degree, legitimate.

Several studies examine the correlation between tax evasion and generally acceptable views of the definition of justice and inequities in tax law such as the lack of connection between contributions and benefits. (Spicer 1974; Spicer and Becker 1980 and Tyler and Smith 1998) They agreed that an equity theory is very important because it expects that fulfillment and actions are connected not only to the objective outcome levels, but also to the relation of the outcome to what is judged justice, they have posited positive links between observations of justice and economic inequality and tax evasion. Others argue

that there is a stronger link between paid contributions and any entitlement to benefits in that they may increase effectiveness of the contribution collection (Strban, 2007).

One of the most important studies regarding social security contribution evasion; was conducted by McGillivray (2001) who attempted to analyse the implications of contribution evasion for SSPS. He concluded that some provisions of SSPS can enhance tax evasion. For example, an employee may claim to be self-employed if coverage of self-employed workers is not compulsory. Where employers must have a minimum number of employees (or turnover) for coverage under a scheme, they may arrange to keep the number of employees lower than this number for example in Jordan (the minimum number needed to be covered by the scheme is five employees).

Also, some systems utilize design features that encourage evasion. In DBP the retirement pension is often worked out in accordance with a formula which links a worker's earnings near retirement to the period during which the worker contributed to the scheme. Therefore, in many schemes such as this, the link between benefits and contributions is not often transparent. The scheme may have been open to strategic manipulation by workers who could organise their employment to take better advantage of their expected pensions and minimize their contributions, and this was reflected in high rates of tax evasion.

To summarise: this section revealed that there are other factors that play a vital role on tax compliance and have been studied in the field of legal literature such as tax

complexity. Therefore, simplicity and clarity should be the guiding norms in tax-law design in transitional and developing countries. In addition to this, the development of an equitable and fair tax law could assist in an increase in compliance and so could explain why tax evasion behaviour may not be explained merely by looking at the financial inducements of the tax system alone. Consequently, the literature indicates that such an analysis of these factors can provide a better understanding of the behavioural consistency with the stated rules.

3.5.3 Ethical and Social Consideration

This section presents a brief overview of tax evasion based on processes of ESC influences in the area of taxation. This aims to enhance the understanding of taxpayers' decisions, behaviour and their ability to better develop tax enforcement strategy. However, in most circumstances people have a greater tendency to fall under social influences when dealing with uncertainty (Turner, 1991) and given that, all theoretical models of tax evasion cover decisions made under uncertainty, a correlation is clear (e.g. EUT). Therefore, if attitude and social norms direct taxpaying behaviour then researchers have to know more about how they are formed and how they can be changed (Lewis, 1982). It is worth noting that, paying taxes is a process during which taxpayers acquire information, form opinions and conduct certain actions.

In the Basic Economic Model, social influence did not exist; people behaved in a social vacuum and thus made tax decisions free from those of other taxpayers, i.e. independent rational decisions.

Outside economics, recent research in psychology and sociology emphasises the importance of socialization processes in affecting behavior. Compliance with rules and regulations is hypothesised to be related to both the internal capacities of the individual and external influences of the environment, where the socialisation process is the linkage between the individual and society.

There are two leading psychological theories to explain how socialization processes work with respect to compliance behaviour: cognitive and social learning. According to cognitive theory, the key variables determining compliance is the individual's personal morality and level of moral development and according to social learning theory, the key variables determining compliance include peers' opinions, and the extent of social influence an individual encounters. It is obvious that, social influence plays a significant role in everyday social exchange. Similar to enforcement authorities, peer groups can reward and punish their members, either by withholding or conferring signs of group status and respect (Geerken and Gove, 1975; Vogel, 1974; Witte and Woodbury, 1985). Combined, moral obligation and social influence potentially might generate significant levels of compliance even in the face of a weak deterrent effect.

More practical evidence is essential with regard to the impact of social influences on contribution evasion. Paldam (2000) stated that "Social capital is a new field, suffering from a great lack of good, reliable data. However, it will take some time and a lot of work has to be done before it is known if social capital can deliver what it promises". The

forms generally used in economics to illuminate and forecast behaviour towards a tax system bring very little attention to the effects of social influences and moral values.

- A social norm and social interaction for tax compliance

In general, social norm is defined as “a pattern of behaviour that is judged in a similar way by others and that therefore is sustained in part by social approval or disapproval” (Elster, 1989). Therefore, if individual groups behave in line socially in approved modes of behaviour, it is likely that other people will behave in a similar way. Social norms are consistent with other approaches such as those that rely upon social customs or upon people’s ethics or feelings of guilt and alienation. Generally, it is proposed that people comply as long as taxpayers believe that compliance is the social norm. Conversely, if evasion becomes widespread, then the social norm of compliance disappears.

Social norm influence on tax compliance can be separated into two basic categories. The first refers to how taxpayers judge their own compliance behaviour in light of the individual's own beliefs about what is appropriate, approved, or moral behaviour (what might be termed "internal norms"). The second refers to how taxpayers recognize that they are treated by a tax authority in such areas as the payment of taxes, the quality of public provision services, or the responsiveness of tax administration decisions (or "external norms").

Falkinger (1995) suggested two reasons to explain how taxpayers' knowledge of inequity affects their perceptions of the risk involved in tax evasion. The first is consistent with the Basic Economic Model. This is where taxpayers concentrate on public services provided from taxes as an alternative way to increase their utility. Particularly, if taxpayers believe that taxes are spent on the public services that they prefer most, then tax evasion is more risky because it involves more economic cost than benefit. Given that taxpayers are considered to be risk averse they will not evade payment. His second reason talks of non-economic cost following the act of evasion, which he refers to as the 'psychological argument'. The reason states that: 'if the socioeconomic scheme is considered to be relatively equal and fair, individuals reduce evasion.' The fairness of a system a person lives in may damage an evader's reputation if people presume evasion to be something worthy of blame. Therefore, risk aversion will increase with a perceived equity which means there are also social costs following the act of evasion: namely social disapproval.

Furthermore, Cullis and Lewis (1997) have suggested a model that tries to incorporate social psychological elements in an economic model of tax compliance. The model proposes that people can increase their utility by being compliant with social norms. They especially believe that "general tax compliance is a utility generating social norm that varies with the ability of different societies to solve the inefficiencies associated with the provision of a public good and hence the price of conformity". The model considers tax compliance as a process rather than just an outcome as well as considering social norms as a very important element towards social influence that has a vital role in the model.

The authors conclude that, the relationships between taxpayers are restricted to interpersonal communication with others whom the taxpayer personally knows and interacts with.

Falkinger, (1995) and Erard and Feinstein, (1994), additionally, postulate that these norms correlate to the level of which people were brought up as law-abiding citizens and internalised certain moral beliefs about crime (known as the socialization approach). Furthermore, Antonides and Robben, (1995) confirmed that people can also acquire taxpaying norms through a social learning process by observing and copying the behaviour of taxpayers in our immediate, close environment (or social learning approach).

Both approaches demonstrate taxpayers obey norms through mechanisms such as guilt and/or shame. For example, According to Lewis (1971), “guilt arises when individuals realize that they have acted irresponsibly and in violation of a rule or social norm they have internalized”. Since the commitment of paying taxes to the government is an accepted social norm, it is sensible to conclude that taxpayers who choose not to pay all of their taxes may feel guilty. Grasmick and Bursik’s (1990) confirmed that, feelings of guilt have influenced tax compliance but argued social disapproval does not, because of the private nature of taxpaying.

Conversely, Hasseldine and Kaplan’s (1992) findings specify that feelings of shame affected tax compliance decisions behaviour but feelings of guilt did not. In addition,

Murphy (2004) revealed that, an individual's emotional response to chastisement is found to play a central role in the determination of whether or not they will consequently comply with their legal obligations. Survey data collected from 2292 taxpayers who were accused of avoiding tax payments demonstrate that perceptions of procedural injustice can ultimately affect future tax compliance through a set of mediating variables that correspond to emotions of shame and guilt.

Regarding to the SSCE in particular, employees may be unaware of contribution evasion, as there is no way for them to check the contributions paid by employers on their behalf (Magillivary, 2001). Moreover, social security taxpayers may not be aware that their evasion could cause serious financial problems for the sustainability of SSPS in the future. Consequently, SSCE may produce psychological costs regarding their awareness.

Despite the fact that researchers have always found evidence for the influence of taxpayer's personal norms on degrees of tax evasion, findings for the role of social norms on tax evasion have more than one possible meaning.

Vogel (1974) found that among a sample of Swedish taxpayers that thirty-six percent had contacts with tax evaders, and reported that their likelihood of evasion were larger than average as compared with twenty-four percent of taxpayers who had no contact with tax evaders. The author concluded that: "...group support seems to be of some importance in the formation of attitudes to tax system, attitudes to tax evasion and actual behaviour. Such group support includes the transmission of deviant norms, techniques of tax

evasion, and techniques of neutralising deviant behaviour to keep up a positive self-conception”.

By using data from a survey with Australian citizens, Wenzel (2002) presented an analysis of “the role of social identification as a process transforming a social group into a self-category and reference group whose norms are internalised and acted upon as one's own personal views”. The main conclusions were that: firstly, people were more likely to be influenced by others who are considered members of their one relevant self-category; that is to say, those members of the group with which one identified in a given situation. Secondly, such influence means that the views and behavioural tendencies of fellow group members are internalised as one's true personal convictions.

However, the extent of evasion appears to have an effect on taxpayers' behaviour even if they do not know these evaders personally. Jackson and Milliron (1986) report the findings from a study by Kaplan and Reckers (1985) that, the aim of taxpayers to evade “are influenced considerably by their perception of the extent of evasion of others who may not be known personally, but who are perceived to have high moral character”. Whereas, Song and Yarbrough (1978) found that taxpayers' attitude about tax evasion were significantly linked with their perceptions of the dominance of tax evasion among other taxpayers.

- Tax morale and tax evasion

Finally, aspects of tax morale have increasingly drawn more attention. Andreoni, et al, (1998) point out that “Adding moral and social dynamics to models of tax compliance is

as yet a largely undeveloped area of research”. Therefore, more economic models have adopted a ‘social’ approach by extending the assumptions of the Basic Economic Model to incorporate taxpayers’ moral values and the role of their social environment.

Researchers have indicated that tax morale can help to explain the high level of tax compliance (Schwartz and Orleans 1967). The most important indicators in the literature about tax morality and views on its payment stressed that tax evasion should not only be analysed from the Basic Economic Model point of view.

In the literature, there are two curious theories that make it possible to incorporate tax morality in a Basic Economic Model. The first theory is a positive approach (Chung 1976). Here, taxpayers are not only affected by their own welfare but are also interested with people’s general welfare. The decision to evade is restrained by their awareness that evasion will reduce the resources available for others’ welfare. The second is the “Kantian” morality approach by Laffont (1975) and Sugden (1984). This approach is related to Kant’s definition of morality and is based on the hypothesis that a fair tax is a tax that a taxpayer believes to be fair for all other taxpayers to pay. Evasion behaviour will create anxiety, guilt and decreasing taxpayer’s positive self-image.

Several studies in developed countries examined the effect of morality on contribution evasion. The result supports a positive relationship between a high sense of morality and tax compliance (Erard and Feinstein 1994). In general, financial psychology looks mainly at the role of moral and social norms vis-à-vis taxpaying behaviour. Alm, et al (1999) report that public norms of tax compliance and the moral judgements of tax payers

through their association with the general system affect the way people behave towards tax systems in particular.

A study conducted by Sigala (2000) noted that British taxpayers reported that ‘cash in hand’ is a norm among tradesmen in the UK construction industry. They explained this norm regarding the following variables: “opportunities for cash payments, low risk of detection, not being well paid, clients’ consensus, and frequency of such transactions among colleagues”. Sole traders in professional jobs reported avoiding asking for cash payments because they believed “that such payments put their professional reputation at risk and it was not worth asking for them”. In addition to these variables, moral beliefs on tax evasion and the penalty if detected evading has also been found to affect tax evasion decisions.

Several studies have claimed that there is an impact on tax morale in an economy when there is a sizeable black economy. Kanninen et al. (2004) offer evidence from twenty-one developed OECD countries, suggesting a negative impact on tax morale when black economies are of a sufficient size that their existence becomes common knowledge.. This result is confirmed by Torgler and Schneider (2009) who also find a negative impact on tax morale in similar circumstances. The tax morale variable can explain up to one third of the deviation in the black economy variable.

Furthermore, tax morale plays into the importance of political governance for tax payer compliance. Tax morale and levels of voluntary tax compliance may depend on the extent to which tax payers see the state as having a legitimacy, and the extent to which they

consider revenues to be well spent, e.g. on improving public services. (see Lieberman, 2003, Brautigam et al., 2008, Everest-Phillips, 2008a).

A number of previous findings have investigated the correlation between tax morale and the size of the black economy. Alm and Torgler (2006) focus on Europe and the United States. They discovered a muscular negative correlation (Pearson $r=-0.460$) significant at the 0.05 level. Analysing the simple linear relationship in a regression study demonstrates that the variable tax morale factor can explain more than 20% of the total variance in the size of a black economy. The level of tax morale has therefore, consequences for real behaviour, and indeed, might be itself responsible for the size of any such black economy. If tax morale is in decline, then the shadow the size of the black economy is expected to increase. Torgler and Schneider (2007) demonstrate how tax morale and countries' institutional quality of service provision affects the black economy. They discovered strong support for the argument that higher tax morale and a higher institutional quality of service provision lead to a smaller black economy.

Finally, the role of taxpayers' collective sense of duty could be one the determinants of tax compliance. Scholz and Pinney (1995) suggested that the taxpayers' sense of duty towards paying taxes significantly determines the perceived probability and risk of being caught when cheating, whereas, Schneider and Enste (2000) reported a "positive relationship between higher tax evasion and declining civic virtue and loyalty towards public institutions". Both involve a positive connection between this aspect and evasion.

To summarise: this section highlighted studies that focussed more on the area of social influence on tax evasion. These studies criticised the Basic Economic Model on the basis that there are a number of evasive decisions and enforcement policies that cannot be studied effectively within this model. Therefore, economists incorporated the idea of social norms and moral taxpayers to improve the strength of the model to predict the TE problem. This new economic assumption of the interdependence of taxpayers has been added to Basic Economic Model by variables such as perceptions of inequity and feelings of guilt and shame as additional costs of tax evasion to improve the model's predictability.

3.6. Summary and Conclusions

The purpose of this chapter is to review the issues involved in tax evasion to understand and explain the key determinants of the tax evasion problem. It also reviews the issues that arise in tax evasion at the firm level, where firms could also have a more independent role in tax evasion activities as evaders of taxes. Then, this chapter attempted to analyse the tax evasion literature starting with the Basic Economic Model, based on the EUT, that concentrated on traditional economic topics such as audits, penalties and tax rates. The standard economic model of tax compliance that views compliance as an example of the economics of crime, provides a useful starting point for thinking about tax evasion. But in recent years, many scholars have pointed to limitations of this framework. For example, the model under-predicts the number of honest taxpayers. It also does not provide strong predictions about the socioeconomic determinants of evasion.

The chapter goes on to show that there are a large number of contributions to the literature which have extended the original model in a number of directions, and which mainly fall into two approaches. One approach tried to incorporate findings into a more sophisticated EUT to improve the predictive power of the Basic Economic Model. The other approach moved beyond a traditional EUT into the direction of including non-economic factors.

In particular, the chapter introduce the extensions and modifications of the Basic Economic Model by including more economic factors. Researchers argue that this economic extension introduces some more significant insights of the tax evasion problem, but also suffers from some important deficiencies. Namely, those deficiencies arise primarily because of a failure to incorporate other factors into the analytical framework.

Consequently, the later section analyses the role of NEFs which considerably influence and determine the SSCE problem: namely, the impact of the effectiveness of a tax agency and its administration, the legal and regulatory structure, and ethical and social considerations. The argument exists that the factors mentioned above are important in all countries, but are crucial in developing countries. The ineffectiveness of tax agencies and their administration, as well as their possession of undeveloped legal systems, together contribute to black economic methods of regulating relations between citizens and the state. (Christie and Holzner, 2006)

In addition, reviews of other non-economic factors that derive from ethical and social factors and reject a strictly classical approach are demonstrated in the later section. From an orthodox point of view, it may be possible to allow the legitimacy of these models if there is an expansion of the variables that are used by the taxpayer's utility function, e.g., to include guilt or shame.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. Introduction

The objective of this chapter is to outline the methodology which has been used in this study by the researcher to generate empirical evidence of the attitudes of former contribution firms' evader and thus attempt to determine and explain the factors that influence the contribution evasion for the JSSS.

The chapter is organised as follows: after the introduction, section two presents the methodology and data availability to be used in this study; section three presents the proposed model and variables which will offer a more complete explanation for the research problem; section four introduces several hypotheses that are to be tested; section five demonstrates the methodology of sampling techniques and choice to be used in this study; section six reveals the data-collection method and procedures and provides an extensive discussion of the main challenges involved in collecting data on tax evasion in developing countries in general, and Jordan in particular; section seven is a pilot study conducted to trial various aspects of the study and appropriate modifications to procedures made to the design; section eight presents the statistical techniques to be used to analyse the data, and finally, in section nine a summary is presented.

4.2. Methodology and Data Availability

Methodology is considered as a theory of ‘...How research does or should proceed.’ (Harding 1987). According to Selltiz *et al* (1959) “The purpose of research methodology is to discover answers to questions through the application of scientific procedures. These procedures have been developed in order to increase the likelihood that the information gathered will be relevant to the question asked, and will be reliable and unbiased” (Cited: Baker 2001).

The intention of this study is to employ a variety of methodological tools to analyse the JSSCE, as each tool has advantages and deficiencies. Thus, this thesis aims to work with literature, questionnaire and semi-structured interviews so as to check the robustness of this research finding. As a result, “...The idea is that if multiple sources of information produce similar results, the credibility of the survey's findings is enhanced” (Fink, 2003)

4.2.1 Research Philosophy

Research philosophy refers to the way the researcher thinks about the development of knowledge (Saunders *et al.*, 2000). Easterby-Smith *et al* (1997) identified three reasons which reflect the importance when exploring research philosophy:

Firstly, it aims to persuade the researcher to identify and improve the methods to be employed in a report, so it makes the research strategy used much clearer.

Additionally, it allows the researcher to appraise different methodologies and techniques and avoids using them incorrectly as well as minimising preventable extra work by delineating the drawbacks of particular theories before moving on to any additional stages.

Finally, such an approach can help the researcher select or modify methods that were previously beyond the parameters of consideration.

In general, there are two research philosophies that dominate Western academic literature: positivism and phenomenology. Both of these should be examined and understood before any decision on research methods can be decided (Easterby-Smith et al. 2002; Collis and Hussey, 2003; and Saunders et al. 2000). These two methods have quite different hypotheses and methodological techniques as to how they understand the social world and how social science should be performed (Creswell, 1998). A research method that considers various approaches helps decide other elements of the overarching methodology, such as the research approach, the strategies employed the methods of data collection and even the analysis of the data itself.

Positivism and phenomenology can be defined in different ways. Hussey and Hussey (1997) argue that positivism and phenomenological examples are sometimes explained using wholly different descriptors. The positivistic method could be considered a traditional, quantitative, or empirical science whereas phenomenology could equally be considered a post-positivistic, subjective, or qualitative type of system.

The approach of selection may rely on the context of the study and the nature of the questions being asked. Denzin and Lincoln (1998) add, “The researcher’s experience, understanding of philosophy and personal beliefs may also have some bearing on the method adopted”. Shih (1998) expanded this thought, naming four areas which should be taken into account when deciding on a research method: “The philosophical paradigm and goal of the research, the nature of the phenomenon of interest, the level and nature of the research questions, and practical considerations related to the research environment and the efficient use of resources”.

When taken from a positivistic approach, the researcher develops a theory and hypothesis (or hypotheses) about the connection or effect between two or more variables, which is then tested in an empirical manner by gathering information on the relevant variables and then applying statistical tests so as to identify relationships of any significance. According to Smith (1998) "Positivist approaches to the social sciences assume things can be studied as hard facts and the relationship between these facts can be established as scientific laws. For positivists, such laws have the status of truth and social objects can be studied in much the same way as natural objects". As a consequence, relationships of cause and effect exist among certain variables and can be identified, proved, and explained. Therefore, the patterns of the social world are mostly predictable and can be potentially controlled. Moreover, the researcher is not part of the research itself; they present the results without any kind of intervention (Sharlene, *et al.* 2005).

On the other hand, phenomenology's philosophical aims are to study the phenomena, or appearance of human experience while trying to defer all consideration of their objective reality or subjective association (Grolier Encyclopedia, 2003). Therefore, the researcher is, in effect, part of the research itself. Blaikie (2000) added “patterns or correlations are not understandable on their own. It is necessary to find out what meaning (motives) people give to the actions that lead to such patterns.” The philosophy of phenomenology is exemplified by a focus on any meaning that subjects of research give to these social phenomena. The main worry of phenomenological researchers is to understand events and why they are happening. This kind of research is especially concerned with the context where these events take place. According to Leedy and Ormrod (2001), qualitative data in the form of long interviews with a judiciously selected group of participants is the best method for researchers who adopt the phenomenological approach.

In recent years, an amalgamation of the two paths has been another alternative; the rationale behind this partnership is that each philosophy has particular strengths and weaknesses. Therefore, using a combination of philosophies maximises their strengths and minimises their weaknesses.

4.2.2 Types of Research Methods

There are three types of research method: quantitative, qualitative and mixed method. The methodological distinctions most commonly used focus on the differences between

two kinds of research methods whether it is a quantitative research, to investigate phenomena which have been adopted by positivism, or qualitative approach, which aims to describe and explore in-depth phenomena which have been allied with phenomenological philosophy (Polit et al 2001).

- **Quantitative Research**

Quantitative research is, “An empirical method of research in which the researcher explores relationships using numeric data” (Colorado State University, 2004). In addition, Arsham (2002) states that quantitative data is always numeric and indicates either how much something is or how many it is. The concern here is with number rather than the words used, as well as being concerned with the explanation of relationships between variables and the testing of specific hypotheses. Therefore, special statistical tools are in actuality used to analyse this kind of data.

A particular type of survey strategy is usually thought to be the most common quantitative method used by researchers. . However, as in any other type of research, there are distinct advantages and disadvantages. Easterby-Smith (1991) mentions some of the advantages as follows:

1. Quantitative methods can cover a wide range of potential situations.
2. These methods are quick, clear and economical, dealing with statistics combined from possibly big samples which may be of notable relevance to decision and policy makers.

The main disadvantages are:

1. Methods are prone to being somewhat inflexible and artificial.
2. They are not very efficient in helping to understand processes or the import that people attach to such actions.
3. They are not very useful in that they make it difficult for policy makers to deduce what adjustments and actions should take place in the future.

Quantitative research is simply expected to be rigorous, and, accordingly, data resulting from their use takes on the presumption of validity because of their efficiency and ability to help generalise the data collected. On the other hand, qualitative research is assumed to lack validity in the pursuit of depth and dependability. It is important to take into account that the concept of validity was developed as a consequence to positivist philosophy (Sharlene, et al. 2005).

▪ **Qualitative Research**

Qualitative research is defined as: "...A process of enquiry that draws data from the context in which events occur, in an attempt to describe these occurrences, as a means of determining the process in which events are embedded and the perspectives of those participating in the events, using induction to derive possible explanations based on observed phenomena" (Gorman and Clayton, 1997). In addition, qualitative research according to Spencer et al. (2003) "aims to provide an in-depth understanding of people's experience, perspectives and histories in the context of their personal circumstances or

setting”. There is additionally much more importance levied on description and discovery and much less significance given to the testing of hypotheses and their verification. Weight is given to exploratory rather than explanatory concerns this is to enable a better consideration of the research problem.

Concerning the form of qualitative data, these are usually in the form of words rather than numbers. Furthermore, according to Mason (2002) qualitative research should be: (1) systematically and rigorously conducted, (2) accountable for its quality and its claims, (3) involve critical self-scrutiny by the researcher, or active reflexivity, (4) produce explanations or arguments, rather than claiming to offer mere descriptions, and (5) produce explanations or arguments which are generalisable in some way, or have some wider resonance.

In the case of methods such as case study, interviews, group discussion, participant observation, documents and records analysis, all of them could be applied to this particular approach. The main benefits of using a qualitative research method are to classify and simplify explicit responses that are related to the approaches and behaviours of the respondents and to obtain a more profound insight into their organisational system. Moreover, qualitative methods help researchers to have more of an understanding of the people and situations involved and assist the respondents in better understanding their own worldview and judge the way they actually build their own reality (Eastrby- Smith, 1991).

- **Mixed Research Method**

In practice, research rarely falls under one specific research philosophy like Positivism (quantitative) or Phenomenology (qualitative). Therefore, many researchers realise that they should use both types of approach in order to get most benefit from the two of them, in order to improve the quality of information which is required for conducting any accurate research.

The combination of both methods in a single study was supported by Yin, (1994). He argued, in spite of the distinction between qualitative and quantitative research that “there is a strong and essential common ground between the two”. With this in mind, Easterby–Smith (1991) also argued that some of these methods could be used in both situations, for example, the interview, where a single piece of data such as the transcript of an interview, can be analysed in two ways. Additionally, there is no limitation on using a particular method in a particular situation and another method in another circumstance.

There are many advantages to this way of operating. Mainly, researchers can use amalgamations of different methods in one particular study, either due to the design of the research or in order to confirm results from using different methods. The approach mentioned above is sustained in an approach known as ‘triangulation’, which is defined by Leedy and Ormrod (2001), as using two or more data source methods within one project so as to help make sure that any data produced by the competing methods are

consistent with what is expected. Thus the choice of various methods of data collection allows triangulation to occur.

Also, as suggested by Saunders et al. (2000), semi-structured interviews can be an important way of triangulating data collected by other methods, such as in the use of a questionnaire.

Validity is increased when it ensures that the variance in the variable is assigned to the trait of the subject examined rather than to the method that is used for the investigation. In brief, triangulation occurs when one crosschecks data for internal consistency and external validity. These are vital matters of concern for any study (Yin, 1994; and Saunders *et al.*, 2000).

In conclusion, the source of a multi-task approach is the fact that qualitative and quantitative methods complement each other rather than compete with each other (Saunders et al., 2000). Thus, it is very common for socio-economic researchers to integrate both methods for socio-economic survey work.

4.2.3. Research Approaches

There are two approaches to research we will cover here: deductive and inductive. A deductive approach is a scientific approach, where the researcher is independent of the research. This method entails the development of a conceptual and theoretical structure

before its testing through empirical observation (Gill and Johnson, 2002). A deductive approach works from the more general to the more specific, which is sometimes called a "top-down" approach (Trochim, 2000). In addition, a deductive approach is normally used for analysing the relationship between two factors. This approach is typically used in positivist quantitative research (University of Michigan, 1994). The figure below demonstrates the deductive approach.

Figure (4.1): The deductive approach (Source: Trochim, 2000)

The inductive approach works the opposite way, Trochim (2000) described it as: (1) moving from specific observations to broader generalisations and theories, (2) a "bottom-up" approach, and (3) the researcher starts with specific observations and measures, detects patterns and regularities, formulates some tentative hypotheses that can be explored, and finally ends up developing some general conclusions or theories.

This approach is used typically in phenomenology. Arguably, therefore, at least one approach should be followed by any researcher. The figure below demonstrates the inductive approach.

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Figure 4.2: The inductive approach (Source: Trochim, 2000)

4.2.4 Research Strategies

In brief, there are number of strategies available for any researcher trying to conduct empirical data collection. The researcher can choose between a survey, an experiment, observation, history, an analysis of archival records and a case study; the researcher's choice depends on the nature of research questions to which extent the researcher has power over behavioural events, and to the degree of focus on current events (Yin, 1994).

4.2.5 Research Methods Selection

Due to the research problem and objectives of this thesis, the type, approach, philosophy, strategy and model for solving the problem needed to be determined.

In this study, a combination of quantitative and qualitative methods are used which reflect the nature of the research problem. The use of this combination is necessary to achieve the research objectives. After presenting a critical overview of the JSSC and its administration, this study will use quantitative methods to achieve the second objective which is to develop suitable models for the undertaking of empirical analysis to explain the main determinant of JSSCE. It will then move to qualitative methods, to achieve the third objective by undertaking a series of interviews with which to assess the reasons for compliance of former contribution evaders. The last objective is to propose suitable strategies for the JSSC to adopt in reforming the scheme. As seen, this combination means moving from using a deductive approach to an inductive approach, and moving

from a positivistic philosophy to a phenomenological. The key point, therefore, is to use these methods and philosophies to achieve the research aims.

Generally, qualitative research will be conducted in this study with an eye to an in-depth understanding of respondents' motivations and their attitudes towards contribution evasion. The results of the qualitative research should provide a valuable contribution to the support of the quantitative stage by the enhancement of the robustness of the research carried out and to improve the ability of a researcher to draw conclusions from a study. Further, recommendations to the JSSC could be made with greater clarity and confidence.

Regarding, the strategy of this research, the survey is selected because it supports the previously-mentioned selection of methods and helps in collecting the required data. The type, design and management of the survey are clarified later in this chapter. In addition, the general research design is explanatory where the reason for carrying out the explanatory research is to discover cause/effect relationships between particular variables, (Saunders, et al, 2000) and due to the time horizon, data for this study is cross-sectional, which means a set of observations on one or more variables is collected at the same point of time (Gujarati, 2003).

Two methods of data collection will be used: secondary data is going to be collected through a literature review, reports, statistics, census and previous surveys to achieve background information about the research problem, and primary data is to be collected

from semi-structured interviews and self-administrated questionnaires to undertake an empirical analysis to explain the main reasons for contribution evasion.

The model will be developed mainly in line with previous tax evasion studies with particular attention in the direction of contribution evasion studies so as to solve the research problem.

4.2.6 Data Availability

The relationship between any research and its results can be established only to the extent that relevant data is available, so, methods which have been employed to collect data must be selected on the basis of the nature of the data required and the sources available.

Generally, it is difficult for any researcher to obtain reliable information about tax evasion behaviour and to find data of adequate quality. Cowell (1991) confirmed: “Data from official investigations is hardly ever available and data from other sources may be suspect: if you could directly observe and measure a hidden activity, then presumably it could not really have been properly hidden in the first place”. Even if data about tax evaders could be obtained, tax evaders’ behaviour could be affected by specific circumstances, which are difficult to control. Lewis (1982) supported the view that tax payers might refuse to answer questions about evasion problems or moderate their views to reduce the likelihood that information is used non-confidentially.

Usually, there are two kinds of data, namely secondary and primary data. Secondary data is the data that already has been gathered by other researchers with different purposes in mind, while primary data is the data that a person gathers on their own with a specific purpose in mind. In addition, Yin (1994) mentioned that there are “six important sources of evidence, namely documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. None of these sources of evidence has complete advantage over all of the other instead they complement each other”.

The data will be gathered to meet these research objectives using both primary and secondary sources. The sources of evidence will be gathered from a structured questionnaire surveys that will be distributed to those who were former contribution evaders and now are compliant with the JSSC. In addition, ten face-to face interviews with former firm evaders and seven face-to-face interviews with managers at different levels of JSSC employees will also be carried out to elicit reliable information of relevance to the study. Moreover, literature and studies relating to tax evasion in general and to SSCE in particular will be scrutinised.

Furthermore, the researcher has been granted accesses to the JSSC archives (library) and the reports published by the JSSC such as the Inspection Department, Auditing Department, and Pensions Department.

4.3 The Research Model and Variables

The research model provided here offers a framework for the understanding of the influence of those socio-economic and psychological components on taxpayers' compliance decision-making behaviour. It also shows the relationship between the variables that are related to the research problem as stated at the beginning of the work. The theoretical framework provides a deeper understanding of the research problem and plays a key role in defining it and its parameters.

The main purpose of this study is to develop a theoretical framework model to ascertain and explain the main reasons for contribution evasion that influence Jordanian firms' decisions on compliance or evasion. a number of models and theories were explored before developing the research model. At the beginning, the model tried to examine the relative importance of the reasonably well-formulated EUT, which was influenced by the model of Allingham and Sandmo (1972). Based on this theory, economists examined the level of change in tax compliance as a response to a diverse range of deterrence policies. However, most studies revealed a higher level of compliance than the EUT model might have predicted (Alm, 1999).

As will later become obvious, deterrence and EFs are not the only factors that seem to affect the level of tax evasion. Then, the model started to revise and to analyse the importance of new economic and numerous non-economic factors and to incorporate these factors explicitly into the Basic Economic Model. The challenge is to incorporate

the basic themes of other social sciences in a sophisticated way without giving up the economic foundations because there is general agreement and overwhelming evidence that behavioural factors as well as economic factors influence tax evasion - Cowell (1990), Erard and Feinstein, (1994) and Andreoni et al, (1998). Indeed Alm (1998) states that tax evasion is not a single choice decision but is actually a range of multiple decisions. He adds that more analysis of the multidimensional nature of evasion is required.

In the Basic Economic Model (discussed in details in chapter 3), an employer seeking to maximise his profits will decide not to comply with the social security contribution if the expected return from evasion is greater than the certain return from compliance, otherwise, the employer complies. In addition, an employer acts in disregard of laws and rules up to the point where the marginal profit of acting equals the expected marginal penalty augmented by the risk. Note that the taxpayer is risk averse.

Relying on the literature, a paradigm of the economic analysis of tax evasion provides an inadequate explanation for the revenue collection process. An insufficient theoretical proposition may both distort empirical analyses and suggest useless policy procedures (Sutinen, and Kuperan 1999). Therefore, the extension of the basic economic model is modified to permit taxpayer's behaviour to be determined by including intrinsic and extrinsic motivations. The resulting model integrates economic theory with theories from other disciplines such as psychology and sociology in addition to the conventional costs and revenues associated with illegal behaviour.

The study model introduces the Social Security Corporation as a strategic role player in a game-theoretic approach that grants the Social Security Corporation to place conditions upon its audit rules. “The behavioural framework of tax non-compliance makes it an especially appropriate case for a theoretical construct that explicitly takes into account the interactions and responses of the law enforcement agency” (Erard, and Feinstein, 1994).

Taxpayer compliance literature sees two essential kinds of motivation or duty. The first is related to the taxpayer’s wish to act in terms of his personal morality. The other is related to the intrinsic obligation to follow the requirements of authority (Tyler, 1990). Social influence is extrinsic motivation that can be considered to force the taxpayer’s compliance. Concern for one’s social reputation, or in religious terms, one’s spiritual reputation and fear of a higher power, have long been seen as active motivation important to compliance (Allingham and Sandmo, 1972).

Traditional economic analysis has paid scant attention to the moral and social values of taxpayers and how they influence evasion behaviour. Most current economic theory typically ignores this influence or, even at times, rejects the stance that moral and social factors can have an influence on economic behaviour (Hausman and McPherson, 1996). Conversely, tax evasion literature shows a greater inclination to stress moral considerations. Andreoni, et al, (1998) indicate in their tax compliance surveys that including moral and social factors into tax compliance models certainly improve researchers’ understanding of tax evasion.

Recently, it has been noted that the importance of societal socialisation processes do indeed affect taxpayer behaviour. This has particularly been a focal point in psychological and sociological studies (Levine and Tapp, 1977; Kohlberg, 1984). These studies argued that of taxpayers intrinsic characteristics and external environmental influences are intertwined and enhance compliance with rules and regulations.

To make clear how socialisation processes work regarding compliance behaviour, there are two important psychological theories; cognitive and social learning. According to cognitive theory, the taxpayer's personal morality and level of moral development are the key variables shaping compliance behaviour (Kohlberg, 1984), whereas social learning theory considers the key variables shaping compliance to include peers' opinions, and the extent of social influence an individual experiences (Akers, 1985).

On the other hand, sociological literature have two basic perspectives on taxpayer's compliance behaviour: instrumental and normative (Tyler, 1990). From the instrumental perspective "the key variables determining compliance are the severity and certainty of sanctions" and from the normative perspective "the key variables determining compliance are individuals' perceptions of the fairness and appropriateness of the law and its institutions" (Sutinen, and Kuperan 1999).

While leaving out legal enforcement from the theoretical paradigm is possible, it is plausibly an error, as it then makes it straightforward to fail to notice vital legal and

institutional issues that can improve a revenue collection agency's ability to enforce the law and, in others, restrain a company's ability to apply what could otherwise seem to be hypothetically attractive remedies (Sutinen, and Kuperan 1999).

In this model the variables will be classified as both dependent and independent variables demonstrating the causal relationships between a set of dependent and independent variables. In this relationship, contribution evasion is examined as a dependent variable influenced by four main independent categories of factors which may induce contribution evasion, the perceptions and experiences of respondents with EF, CME, LRS and ESC. In addition, the researcher aims to assess the perspective of the research participants about the influence of firm sector, size and ownership on the contribution evasion so as to get a more comprehensive picture about the research problem.

Tax evasion as a dependent variable will be analysed with the following two indicators: whether it is a common problem, and whether it is an increasing problem. Commonly, taxpayer's compliance behaviour is expected to be affected by the extent of the availability of evasion for game theoretical reasons. In fact taxpayers deal with an assurance problem, where complying could be influenced by the extent of assurance that others also will comply (Sutinen, and Kuperan 1999).

We now turn to the construction of our major variables used to cause and explain the contribution evasion problem. As there are not many studies that thoroughly search for factors which influence contribution evasion in particular; most of the presented control

variables refer to the tax evasion literature in general and via the researcher's own experience working with the JSSC for 23 years.

The starting point is to analyse the effects of traditional variables of the Basic Economic Model on contribution evasion, considering variables such as: the penalty rate of contribution evasion, the probability of being inspected, the SS contribution rate, and the extension variables of Basic Economic Model such as: the firm's liquidity and cash issues, and the unemployment rate. From the perspective of the Basic Economic Model, the inclination of an employer to evade also depends on the employer's appraisal of the risk of being caught and, should the employer be caught, the harshness of the subsequent financial penalty (Mcgillivray, 2001).

Next, this study aims to extend the Basic Economic Model in the direction of non-economic variables in the circumstances of paying the JSS contributions. As a multifaceted phenomenon, contribution evasion can be seen from a number of varying perspectives. The position of the contributor is influenced by a number of factors, including their outlook towards public institutions, the apparent fairness of the SSL, established social norms, and the chances of non-compliance being discovered and penalised.

Tax agencies play very important roles in influencing behaviours toward tax compliance and the implementation of the law. Therefore, this thesis aims to move further forward in its analysis by evaluating the impact of CME on the subject of contribution evasion in the

JSSC. McGillivray (2001) stated that “A lot of attention is paid to the design, structure and administration performance of contributory social security scheme. However, unless an administrative operation is well implemented, all other aspects of the scheme are irrelevant”. This contribution will, it is hoped, be a useful addition to the tax compliance literature. Therefore, the attitude towards CME will be evaluated with a set of variables to examine how well the JSSC works, its perceived honesty and fairness, and how contributors observe its help and assistance. Whereas, though it appears more trust in the SS administration tends to reduce the contribution evasion problem.

The fairness and the interaction between taxpayers and the JSSC will be analysed. Tax evasion literature has effectively verified that taxpayer’s perception of fairness has an influence on people in their payment of taxes. Moreover, taxpayers’ perception about JSSC performance depends on government spending, and the input-output relation between paid taxes and obtained benefits. As a result, an unfair SSS could enhance taxpayers' willingness to justify cheating. Alm, *et al*, (1992) argue that most previous studies pay no attention to the evidence that tax evasion depends partially on the misuse of tax revenue. Accordingly, additional variables such as corruption could be incorporated and analysed in the model. The commitment of paying contributions to the JSSC might not be accepted social norms in countries where corruption is common.

Influenced by the theoretical analysis of this model, the study also analyses institutional uncertainty and thus the relevance of the information available. According to Andreoni *et al*. (1998), Basic Economic Model of tax evasion presumes that taxpayers' completely understand most aspects of tax law and regulations. However, this is not completely true.

This study analyses the impact of the level and quality of knowledge and information provided by JSSC on contribution evasion.

In addition, recent research in psychology and sociology stresses the relevance of efficient rules and regulations as the main variables in determining evasion tax behavior. “Rules make up a part of any civilized society. When well designed they reflect the social norms of the society in which they are developed and they are used as a way to ensure that citizens do not unfairly disadvantage others” (Murphy, 2004). As a result of this investigation, it will be clearer how regulators might be able to more effectively enforce the law. This will also be discussed.

The study explores to what extent firms are convinced by JSSS, whether it is suitable for the Jordanian economic situation, if the current JSSC benefits firm’s owners, employees, both of groups or even non of them, the extent of linkage between contribution and benefits as well as whether limited Social Security provision is one of the main reasons for non-compliance, and if the JSSS contains some design features which encourage evasion because the structure of social security systems sometimes invites evasion, though not always intentionally. In addition, many studies revealed that, tax law complexity is appreciably related to tax evasion (e.g. Richardson, 2006 and Alm et al., 2004). Generally, the main reasons for the success of many countries’ tax system reforms are the result of a simplification of the tax collection system (Okada, 2002a). Essentially, assessing whether the social security system may contribute to contribution evasion or not.

As has already been outlined, over the last few years researchers in tax compliance literature have shown a tendency to stress the importance of social influence and moral considerations in the explanation of tax compliance behaviour (Andreoni, Erard and Feinstein, 1998). Several studies in developed countries examined the effect of morality on CE. The result supports a positive relationship between a high sense of morality and tax compliance (Erard and Feinstein 1994; Kanninen et al. 2005 and Torgler and Schneider, 2009).

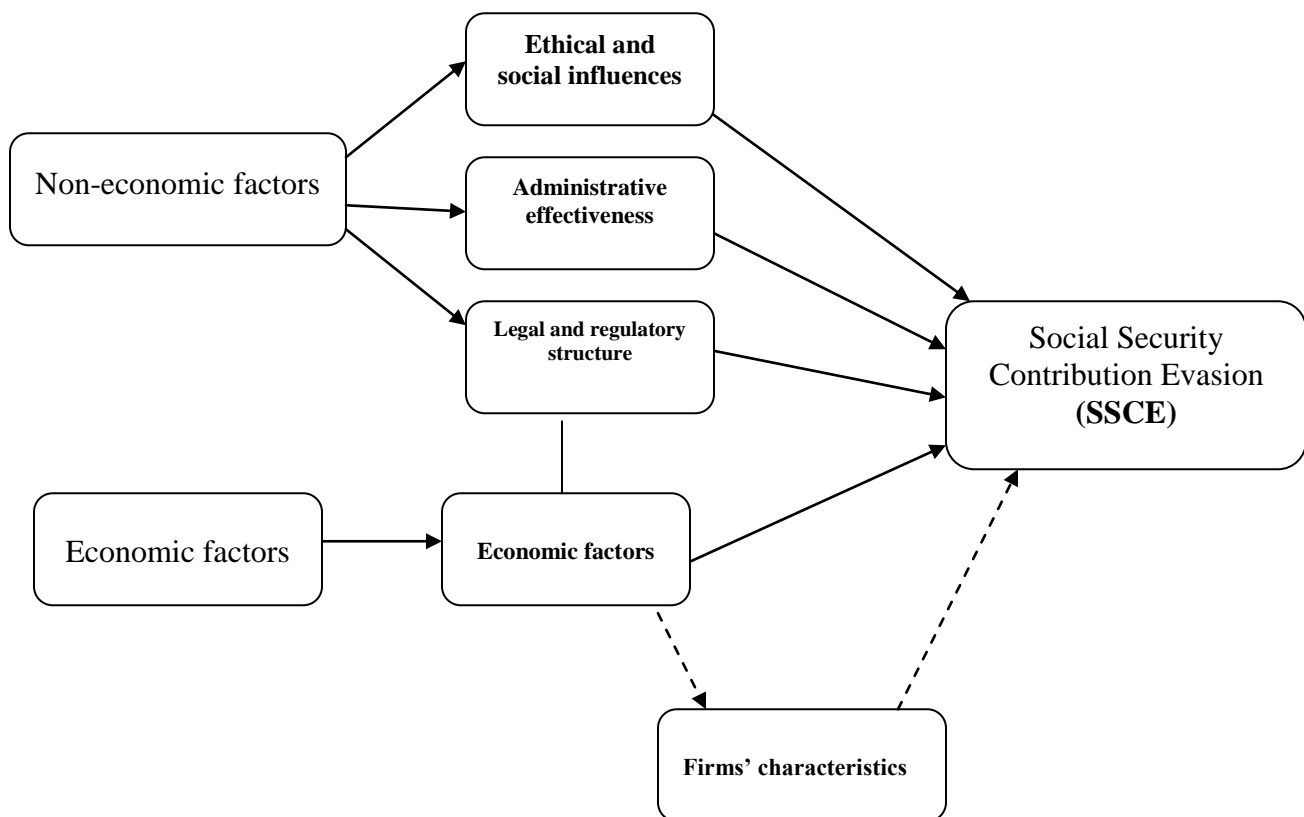
It is obvious that, social influence plays a significant role in everyday social exchange. Combined, moral obligation and social influence potentially might generate significant levels of compliance even in the face of a weak deterrent effect. Therefore, the social influence and ethical considerations will be investigated in the model as well. The participants are asked if contribution evasion creates psychological costs. Thoughts of guilt and shame may minimise the perceived benefits of evasion. Other related variables which induce contribution evasion will be tested such as citizens' sense of duty, which ostensibly could play a role in the analysis of contribution evasion.

Additionally, the study intends to examine the influence of firms' characteristics, namely; the occupational sector, the size of firms and the effects of ownership on the problem of contribution evasion. For example, Roth et al. (1989) state that "occupational grouping may be among the most influential on taxpayer compliance". It is believed that this is due to the fact that firms in the same sector are liable to divide up information and share beliefs about tax issue (Stalans et al., 1991) and have comparable educational qualifications and thus belong to the same social class. On the other hand, it is argued that

small firms or the self-employed evade more because they have comparable opportunities to evade and are very likely to be in a similar financial situation (see e.g, Aitken and Bonneville, 1980, Groenland and Voldhoven, 1983; Hasseldine and Bebbington, 1991; and Houston and Tran, 2001).

It may be said that in addition to the EF, a wide range of social, legal and administrative institutions has been found to have an impact on the problem of tax evasion. Therefore, improving revenue collection in developing countries requires careful design set up and implementation by these institutions (Fuest and Riedel, 2009). Figure 4.3 below illustrates the relationships between the research variables.

Figure 4. 3 The research model



It should be noted that in the proposed model, the Basic Economic Model variables; the tax rate, the probability of detection, and the fine rate are based on Allingham and Sandmo's (1972) study. The extensions and modifications of the Basic Economic Model by including more economic variables where drawn, are from Yaniv, (1994) and Awad, *et al*, (1998) unemployment rate labour-cost reduction is derived from McGillivray, (2001). Lack of money is taken from Ritsema *et al*, (2003) and Strban (2007). The role of paid accountants is derived from Reinganum and Wilde, (1991), Beck *et al*, (1994) and Sakurai and Braithwaite (2001).

The analyses of the role of NEFs which considerably influence and determine the SSCE problem are namely: the impact of the effectiveness of tax agency and its administration, the legal and regulatory structure, and ethical and social considerations are taken from a range of factors as outlined and discussed in different studies such as: Cowell, 1990; Turner, 1991; Cowell 1992, Alm, 1999 ; Sutinen and Kuperan 1999; Krause 2000; Shavell 2000; McGillivray 2001; Wenzel 2002; Gërxhani, 2003; Alm and Torgler 2006; Dreher and Schneider 2006; Kelchev 2006; Richardson, 2006; Torgler and Schneider 2007; Bahl and Bird, 2008; Everest-Phillips 2008; Chris Georges, 2009. The next section provides more details about each factor.

4.4. Setting up the hypothesis:

Guided by the results of the literature review, two groups of fundamental hypotheses were developed to examine the objective of this study so as to determine the degree and the direction of the relationship between the Jordanian Social Security contribution

evasion (SSCE) and the multiple variables which may induce contribution evasion. These include EF such as contribution rate and fine rate; CME in such areas as the lack of coordination between the JSSC and other governmental bodies and the level of knowledge and information provided by the JSSC. This is in addition to LRS such as the degree of scheme suitability to the Jordanian economic situation and the linkage level between SSS contributions and benefits. Also, there are the factors of ESC such as whether contribution evasion generates anxiety and guilt or whether perpetrators feel their actions are morally wrong. Secondly, there is an examination of the influence of some firm's characteristics (firm's sector, size and ownership) on the relationship between research independent factors and the contribution evasion problem.

Therefore, the following two general hypotheses can be formulated and tested.

Firstly: there is a significant relationship between independent factors and dependent variables

Secondly: there are statistical differences in the level of importance placed on the ranking of independent factors among these firms' characteristics with respect to the contribution evasion problem.

4.4.1. Factors and variables which may induce contribution evasion –

- Economic factors.**

Tax compliance literature stresses the importance of Basic Economic Model factors such as the tax rate, the audit probability and the fine rates as well as other economic factors

such as labour cost, lack of money and levels of unemployment rates on the contribution evasion problem (e.g. Slemrod et al. 2001; Alm et al., 2004; Sandmo, 2004; and Hasseldine et al, 2007).

The analysis of empirical evidence on the basic economic model variables indicates that there is a strong positive relationship between higher audit rates and tax compliance. Allingham and Sandmo (1972), Witte and Woodbury (1985), Dubin and Wilde, (1988) Sheffrin and Triest (1992); and Blackwell, (2002) all found that evasion decreases with a greater (perceived) probability of audit.

In relation to penalty rate changes, many studies such as Allingham and Sandmo (1972), Alm, et al, (1992a, 1992b) and Blackwell, (2002) found that an increase in the fine rate leads to more tax compliance.

Regarding the tax rate, most empirical evidence reports that a higher tax rate generally leads to more tax evasion. Johnson et al. (1998), Christie and Holzner, (2006); Schneider, (2007) and Kumarasingam, (2010) all found that high rates of tax on labour may discourage people from working and so result in lower tax revenue than there would be if the tax rate were lower.

Presumably, an increase in the tax rate may raise contribution evasion, but the consequence of a change in the tax rate is however inconsistent (Kelchev, 2006).

However, other studies did not get the same result, meaning no significant critical impact of level of tax rates on tax evasion were found (Webley et al. (1991) and Feinstein, (1991). However, the theoretical economic model of compliance generally suggests that a higher tax rate will lead to higher tax evasion.

In summary, empirical studies demonstrate that the direction of the change in tax evasion as a response to different deterrence variables is not always consistent. However, results have a tendency to suggest that higher audit rates and fine rates reduce tax evasion and tax compliance is decreasing function of the tax rate.

Nevertheless, the likelihood of being detected as non-compliant within the social security tax scheme is also reliant upon factors other than traditional economic policy. One of the most important factors to an employee reporting employer non-compliance is the unemployment rate and the likelihood of the employee finding alternative employment if they lose their job as a result. Empirical results supported this, for example, Cowell, (1981), Yaniv, (1994) and Awad, et al, (1998) indicate that employees would decide to complain to the authorities about being paid as long as they have a chance to get another job.

In addition, in social security schemes; there is an incentive for an employer not to contribute in order to reduce labour costs as well as the temporary financial hardship may cause contribution evasion (Mcgillivray, 2001).

Ritsema, et al, (2003) emphasised that lack of money often motivates the search for an opportunity to commit a crime and the lack of money at the time taxes were due was the main factor in the decision to evade. Therefore, the taxpayers' tendency to evade will be greater in the case of economic strain where the taxpayer's expenses are higher than their revenue.

Although, the relationships between uses of accountants and influence of such usage on the tax evasion problem has been analysed. Relevant findings from the literature propose that many accountants display aggressive behaviour against the tax authorities, helping taxpayers in avoidance and non-compliance McGill (1988), Klepper and Nagin, (1989b), Scotchmer (1989), Reinganum and Wilde (1991) Erard (1993), Beck, (1994) and Sakurai and Braithwaite, (2001) all demonstrated that the average level of taxpayer evaders is higher for those who used paid assistance.

In general, the following sub hypothesis would be tested regarding the factors and variables which may induce contribution evasion:

H1: There is a significant relationship between economic factors and the contribution evasion problem.

- The JSSC management effectiveness.

One of the main contentions of this study is that the inefficiency of tax agency administrations' performance is the main contributing factor to tax evasion. Therefore, satisfaction with social security administration performance can augment cooperation to

maintain the psychological contract between the SSS administration and contributors (Torgler; 2003). Consequently, satisfaction can only be created and sustained if the authority commitment corresponds with needs of its citizens and their hopes and desires. Hardin (1998) and Torgler (2003) found that a higher degree of trust in the administration to a markedly higher tax compliance figure.

As discussed in the literature, several studies particularly in the USA and other developed countries revealed many examples about the influence of institutional and legal aspect on tax evasion. Friedman et al. (1999) found a positive relationship between the portion of the black economy and the ineffective institution is strong and consistent. Vogel (1974); and Kelchev, (2006) found significant relationship between inefficient tax administrations (particularly inefficient tax collection system) and inefficient tax policy in combating tax evasion.

Many researchers emphasise the influence of the institutional environment on the control of positive and negative reciprocity is a most important issue. They revealed positive correlations between perceptions of fiscal inequity and evasion (Spicer 1974; Song and Yarbrough 1978; Walster, 1978; Cowell and Gordon, 1988; Smith and Stalans, 1991; Cowell, 1992). In addition, Smith (1992); and Feld and Frey (2002) found that positive motivational influence taxpayer's behaviour towards tax compliance as a result of procedural fairness.

Some other economics researchers have taken into account the aspects of institutional corruption. Rose-Ackerman, (1997); Kasper and Streit, (1999); Levin and Satarov, (2000); Polinsky and Shavell; (2000) and Kelchev, (2006), reported that in order to control the tax evasion problem; strong institutional controls and accountability are required and the law and rules should be efficient and equally enforced by the tax authority. They found that high levels of corruption increases the taxpayer's willingness to evade taxes.

Additionally, lack of coordination between tax authority and other governmental bodies is going to increase tax evasion. Alm, et al, (1996) suggest that information sharing could thus decrease tax evasion so as to increase agency revenues.

The literature indicated the significance of education and information in the process of opinion formation, a deeper knowledge of the benefits provided by SSC and of the technical reasons for SS laws and regulations is critical before assuming a positive and appropriate behaviour toward the SSC.

Vogel, (1974); and Lewis (1982) revealed that, people generally require more efficient tax structure information than that provided by the existence tax system. They added that, educated taxpayers could also be more knowledgeable of possible government inefficiencies and may be less compliant because they more aware of the opportunities to evade. Their result showed that the level of education correlates negatively with attitudes

favourable to tax evasion. On the other hand, Witte and Woodbury (1985) found evasion is lower with those who are better educated taxpayers.

Moreover, it is important to examine to which extent the awareness of tax issues has an impact on tax evasion because it is very important for firms to be aware that their evasion might damage the welfare of the society (Spicer 1986). The decision to evade is constrained by their awareness that evasion will decrease the amount of resources available for social welfare. Therefore, there is a significant relationship between the extents of awareness of SS scheme and compliance.

Furthermore, several studies attempted to analyse the influence of developing computerised SSS decision support systems to enhance taxpayer compliance behaviour. (Das-Gupta and Mookherjee, 1995; and Masselli et al, 2000) reported that taxpayers who are shown computerisation reported significantly more compliance than taxpayers without. They argue that taxpayer's with minimum level of information will be probably confident more of decision assistance as a consequence of a lack of knowledge. In addition, their result shows that modern information systems could enhance tax compliance by identifying more potential taxpayers.

In general, the following sub hypothesis would be tested regarding the factors and variables which may induce contribution evasion:

H2: There is a significant relationship between firms' satisfaction with the Corporation management effectiveness and contribution evasion.

- The JSSS legal and regulatory structure

As mentioned in chapter three, inappropriate SS scheme and limited SS provision could enhance the incentives to rationalise cheating. Several studies reported positive and significant relationship between tax evasion and general perceived justice and inequities in tax systems such as a lack of linkage between contributions and benefits (Spicer 1974; Spicer and Becker 1980; Smith, 1992; Tyler and Smith 1998 and Kelchev, 2006).

Regarding the Social Security tax evasion; McGillivray (2001) found significant correlation between unsuitable provisions of the social security pension schemes and SS tax evasion. Some of the schemes could be manipulated by the participants to acquire full advantages of the expected pensions and minimise contributions which may lead to increase SS contribution evasion.

In the light of tax complexity (Smith, 1992; Blumenthal and Slemrod 1992; Alm et al, 1993; 1999; and Krause, 2000) indicate that complexity considerably reduces the perceived procedural fairness and enhance tax evasion. Furthermore, taxpayers believe that simplifying the entire tax collection system is the most efficient way to enhance collecting tax revenue. Conversely, Forest and Sheffrin (2002) did not find a systematic relationship between perception of complexity and perception of injustice.

Survey finding of Vogel (1974) described that the vast majority of taxpayer's evaders demonstrated that the major force of tax evasion is a lack of the public feel of justice in the tax system. Similarly, survey findings of Yankelovich, (1984) indicated that the

Internal Revenue Service may face credibility and perceived faithfulness problems and tax evasion is a result of complicated and unfair tax system.

Furthermore, Falkinger (1995) supported that if the socioeconomic scheme is considered to be fairly equal and in conformity with the rules or laws and without fraud or cheating fair, taxpayers reduce evasion.

In general, firms may attempt to evade if they have lack of confidence in the SSS, for example if the sustainability, legitimacy and equity of the scheme are being challenged. Trust and satisfaction can only be produced if the authority's commitment agrees to adjust the output of tax system services to people's needs (Pommerehne, et al, 1994; Hardin, 1998; and Torgler, 2001; 2003).

In this light, the following sub hypothesis is going to be tested regarding the factors and variables which may induce contribution evasion:

H3: There is a significant relationship between contribution evasion and the assessment of the Jordanian Social Security Law and its consequent regulations.

- Social variables and moral considerations:

Since the commitment of paying taxes is an accepted social norm, it is reasonable that people who would not pay their taxes will feel guilty.

Despite of that, researchers have found more than one possible meaning for the influence of social norms on tax evasion problem. Song and Yarbrough, (1978); Jackson and Milliron (1986); Alm, et al (1999); Sigala, (2000); and Wenzel, (2002) confirmed that

social norms of tax compliance affect the way people behave towards tax system. Generally, taxpayers' attitudes about tax evasion were significantly connected with their perceptions of the dominance of tax evasion among other taxpayers. Moreover, Scholz and Pinney (1995); and Knack and Keefer (1997) found a strong positive relationship between social capital variables and economic growth.

On the other hand, Grasmick and Bursik's (1990) reported that, feelings of guilt have influenced tax compliance but argued social disapproval does not because of the private nature of taxpaying. Conversely, Hasseldine and Kaplan's (1992) findings specify that feelings of shame affect tax compliance decisions behaviour but feelings of guilt did not. Thus, more research and empirical evidence is needed regarding impact of social norms on contribution evasion.

In addition, several studies in developed countries examined the effect of morality on contribution evasion. In general, research supports a positive relationship between a high sense of morality and tax compliance (Lewis, 1982; Kaplan and Reckers, 1985; and Erard and Feinstein 1994; Sigala, 2000).

Taxpayer moral may or may not deal with the law and requirements of an authority, and which leads to resistance to the law and to legal authority instead of compliance (Tyler, 1990). Different social norms and ethical values create different incentives for tax compliance. In fact, ethical values influenced by social norms may prevent taxpayers from engaging in tax evasion (Blanthorne and Kaplan, 2008).

In general, the following sub hypothesis would be tested regarding the factors and variables which may induce contribution evasion:

H4: There is a significant relationship between social influence, moral considerations and contribution evasion.

4.4.2. How far some firms' characteristics (firm industry type, size and ownership) influence the relationship between independent factors and contribution evasion.

Several studies stress the relevance of some firms' characteristics (firm sector, size and ownership) on tax evasion (Roth et al. 1989; Stalans et al., 1991; Hasseldine and Bebbington, 1991; and Gërxhani 2002). For example, Gërxhani (2002) find out that "people who work in their own business or who doing any other work without labour contract are hypothesised to evade more. Conversely, individuals who work in the state sector or in the private sector (with labour contract) will evade less".

Hart (1973) has argued hypothetically that self-employed taxpayer's is the major cause of evasion due to their freedom in reporting their different kinds of income. Similarly, Feldman and Slemrod (2007) revealed the fact that "the propensity to make a contribution is higher out of self-employment income than out of wages and salaries".

Franicevic (1997); Johnson et al. (1999); and Kelchev, (2006) reported that smaller firms have the ability to evade more; because these firms are exposed to a lower probability of being monitored. In addition, Mironov (2006) confirmed that, small and medium firms evade about 40% more than large firms. Hence, the proportion of evasion will be higher

for small firms than for large ones. This is related to the financial problems characterising a small firm especially in developing country as well as other reasons mentioned above.

Therefore, the following sub hypothesis regarding about the influence of these characteristics on Social Security contribution evasion will be tested.

H5: There are no statistical differences in the level of importance placed on the ranking of independent factors among a firm's occupational sector with respect to the contribution evasion problem.

H6: There are no statistical differences in the level of importance placed on the ranking of independent factors among a firm's ownership with respect to the contribution evasion problem.

H7: There are no statistical differences in the levels of importance placed on the ranking of independent factors among firms' size with respect to the contribution evasion problem.

4.5 Methodology of Sampling Techniques and Choice

Baker, (2002) stated that “The sample frame for the survey represents the population of eligible organisations. Where the sampling frame is a defined population from which the sample is to be drawn and so must be accurate, adequate, up to date and relevant to the purposes of the survey for which it is to be used”.

In this study, the sample frame list will be supplemented by asking Inspection Departments within JSSC to supply the names, sectors, locations and telephone numbers of firms who have evaded in the past. The list will be unified, edited and numbered and Excel software will be used to create a sampling table of 350 firms from the total list of 2264 which covers Amman, the capital of Jordan. According to Marsland, *et al* (1998), this kind of process is found to be useful for three main reasons “First, it will serve as an initial ice-breaker, allowing the researcher to interact with members of the firms. Secondly, and more importantly perhaps, it will provide a very rapid and accurate way of generating a comprehensive sampling frame for selected firms. Finally, the existence of an accurate official list will help greatly in planning the actual enumeration”.

The survey encompasses nine economic sectors such as financial institutions, industrial companies, real-estate and construction firms. The aim of the survey is to construct as extensive a sampling frame as possible.

In addition, the researcher has to decide which sample unit is to be selected when conducting any survey. For that reason, there is a particular problem regarding whom to interview (Hoinville and Jowell, 1978). However, the selection of the appropriate unit of analysis will result from accurately specifying the primary research questions (Yin, 1994). This varies according to different types of contribution evasion, the questions of this survey will be addressed to the head of firm, financial manager and personnel manager; this choice of those as the sampling unit is likely to be the preferred choice in the light of the researcher’s experience.

Given a sampling frame, and having defined the sampling unit, the next step is to determine the most cost-effective way of selecting specific sampling units from the sampling frame. Basically, the choice rests between probabilities and non-probability based research design and objectives.

Figure 4.4 categorisation of sampling technique

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Source: Saunders *et al.* (2000)

In this study, a stratified random probability sample was chosen from the target population, which contains all firms in the city of Amman, from 2003 until 2008, and from those who were evaders and are currently participating in the JSSC project. Both private and certain areas of the public sector (2264firms) will then be organised into groups or strata according to the criteria characteristics (nine economic sectors).In addition, proportionate sampling will be taken, where the number of groups selected for the sample reflects the relative numbers in the population as a whole and after that a

simple random sample will be drawn from each stratum by using readily available computer programs.

Generally, stratification is simply the process of dividing the population according to factors that are correlated with the area under study. The only requirement for stratification is that each item in the population must fall into one and only one stratum. Efficiency is acquired through stratification by creating relatively homogeneous strata. The greater the correlation between the stratifying variable and the factor under study, the more efficient stratified sampling will be (Baker, 2002).

The advantage of choice stratified random sampling methods against simple random sampling is the ability to study large numbers, which leads to more precise results that are more likely to be free of bias, in particular when the conditions below are met. First, the sampling frame must be precise, detailed and deal with the full target population. Secondly, field workers must do well to contact and interview all those selected (Nichols, 1991)

The researcher will take great pains to take a careful look at two closely related factors. Firstly, the researcher will be certain that the sample range will be sufficiently large to provide adequate depiction of any subpopulations of interest. Secondly, the sample size should be informed by the level of saturation required to achieve targets in order to enhance the generalisability” (Baker, 2002).

Essentially, the sample size will be 350 firms or 13.5% of the former evader firms in Amman. This size is determined by using the table in Salant and Dillman (1994) which provides, “final sample sizes needed for various population sizes and characteristics, at three levels of precision”. According to Hair et al., (1998) “general requirement of multiple regressions, it is generally common to find that a minimum of 100 observations should be available to use this technique”. As such, the number of observations in this study is 350, so the number of observations in this study more than fulfils the requirement of the multiple regression technique.

Limited time, lack of financial resources and the delivered method of the questionnaire conditioned the choice to that of only one city. The motivation behind the choice of Amman lies in the fact that Amman is the largest city in Jordan (where 66 % of former firm evaders in the whole of Jordan existed between 2003 and 2008, and it is the most important in terms of political, economic and cultural status.

4.6 The choice of a survey methodology

In light of the importance to its contribution to the evasion problem, choosing a suitable means of acquiring data will be a very thorny task. It is clear that the observation method is not applicable only because the study of contribution evasion does not necessarily require the observation of interaction between firms and the JSSC with respect to their behaviour. The interview may be fitting but its main deficit is a lack of secrecy, as ensuring anonymity is a vitally significant step for collecting consistent statistics on sensitive matters related to the study of contribution evasion.

Thus, the main instrument used in this study will be the survey which allows the study of contribution evasion as a dependent variable and to determine and explain the main reasons that shape the contribution evasion problem. Tull and Albaum (1973) stated that surveys are concerned with understanding or predicting behaviour and defined that: “Survey research is the systematic gathering of information from (a sample of) respondents for the purpose of understanding and/or predicting some aspect of the behaviour of the population of interest” Baker (2001).

According to Gërxhani (2002), “empirical research has shown that if the goal of a study on tax evasion is to gain such insights, survey research is the best method available”. One of the advantages of a survey is its ability to provide detailed information (socio-economic, demographic and attitudinal variables) on the dynamics behind contribution evasion (Andreoni et al. 1998; Schneider and Enste, 2003).

In pre-industrial countries, surveys are typically the sole method of obtaining data about contribution evasion (Hanousek and Palda, 2003). According to Tindigarukayo (2001) sample surveys carried out in first world countries diverge significantly from those in less developed countries. In these less developed countries, most people prefer not to collaborate with researchers looking to them to complete a questionnaire especially on such sensitive matters such as contribution evasion (e.g. Schneider, 2007). In addition, these countries are often characterised by an amount of unreliable data (e.g., because of scarce national statistics), therefore, researchers have to look at the details of how the

data was collected and the precise wording and phrasing of questions and sample design (Filer and Hanousek, 2002).

Surveys can be criticised by the fact that studies can be biased if they do not represent the population accurately. A high answer rate is consequently indispensable. In addition, a dependable survey tool is one that is moderately free of measurement inaccuracy. For that reason, lowering the chance of receiving deceitful answers is vital which means that more concentration should be given towards two particular emphases on research design: consistency and validity (Saunders et al., 2000).

Consequently, most of the potential deficiencies in the design of a survey tool should be avoided by “careful proof-reading followed by a full pilot study” (Gorard, 2001).

The most difficult task for any researcher who would like to investigate the contribution evasion problem is to persuade evaders to admit to their actual contributing behaviour. Kazemier and van Eck, (1992) showed two approaches that overcame this difficulty: the direct approach and the gradual approach. The direct approach requires taxpayers to be asked in a straight line about their behaviour toward evading. The main difficulty is latent deceitfulness and for this reason low levels of responses or fraudulent responses. On the other hand, the gradual approach set up sensitive questions by surrounding them with related non-sensitive questions. This data is often judged as an indirect signal of the respondents’ contributing conduct. In addition, the manner of formulating the questions

to amass information on such a sensitive topic can play a central role (Kazemier and van Eck, 1992; Schneider and Enste, 2000).

In this thesis the gradual approach will be chosen for its ability to provide a possible solution to prevail over the problem of contribution evasion through the collecting of data by asking questions from which the respondent's input towards evasion can be judged. By adding together a diversity of indirect questions in the study and encouraging contributors to declare their beliefs as those of someone who is in one line of work, participants are encouraged to announce open and truthful answers about the contribution evasion problem so as to develop the reliability of the information collected.

The main determinant which is likely to affect the likelihood of truthfulness in the response rate, speed, cost, sample size and length of a questionnaire is how the researcher aims to deliver it to the research sample. There are many choices, but the most common choices are between face-to-face, self-administered, and technology-based.

Based on the nature of the problem and the context of Jordanian culture, the self-administered questionnaire would be the most suitable method to capture the contribution evasion in this study.

The main advantages of the 'self-administered questionnaire' include: "a high response rate, hence a minimised self-selection bias; a minimisation of the interviewer's bias; a higher quality of data" (Oppenheim, 1992). This can help by building an atmosphere of trust so as to obtain more truthful answers. This kind of method is also easier if the

questions come in the form of an ordinal scale response. The main disadvantage for this form of delivery is the length of time it takes (Gorard 2001).

In this study, the questionnaires were designed mainly on the basis of key variables identified from the existing literature (a standardised questionnaire) and a few questions developed by the researcher (See appendix 4.1). The main advantage in using standardised questionnaires is its reliability (McClelland 1994).

With regard to the dependability of the questionnaire participants, it is essential that the right people are invited to participate. This means, that the participants who will be questioned are those most knowledgeable within the firms selected. On the other hand, the researcher will ask questions that do not lead the participants into taking part and do not influence the person who is questioned as much as it is possible to ensure.

The questionnaire has an official cover letter addressed to the respondents by the Associated Dean (Postgraduate) of the Faculty of Business, Environment, and Society /Coventry University. Such an introduction letter increases the probability of the questionnaire being taken seriously by those targeted. It is also there to explain the purpose and importance of the study and to express that the main object of the study is purely scientific and respects the privacy and confidentiality of its participants. The meaning of contribution evasion is also explained, as well as the approximate time it takes to answer and to collect, and why their help is needed, how to return the completed form (even if incomplete), and finally, a phone number in case the respondents have any questions.

A question is addressed at the head of the first page of the questionnaire about the respondent's role in the firm in order to ensure the researcher is addressing the right person. Information is given by respondents in response to two different sets of questions which are to be used to reflect the respondents' attitude toward the contribution evasion problem.

The researcher constructed a survey designed to understand, firstly, the influence of the four factors previously hypothesised to be the main reasons for contribution evasion. Based on the literature review, the researcher identified (1) EF, (2) CME, (3) LRS, and, (4) ESC as the four key dimensions of CE. The analysis is dependent on asking questions aimed at accessing data about each of these four dimensions. Secondly, examine the relationship between contribution evasion and some of the firms' background information. The questionnaires have been created using 39 questions that have been deemed valid. The scale will be closed-ended and reliant upon a Likert-type scale where participants have five response choices. Gorard, (2001) stated that, "I recommend a questionnaire of eight pages maximum, or preferably less for self-administered instruments. Or looked at another way, do not go much above 100 separate questions".

A total of 350 questionnaires will personally be distributed by the researcher and completed questionnaires will be collected at a later date at an agreed time. This ensures a higher response rate than a postal survey; Babbie (1998) states that "a response rate of 50% is adequate for analysis and reporting, 60% is good and 70% is very good". The researcher will be able to respond personally to any questions, comments and concerns of

participants at the time of collection. In general, there is more sensitivity around methods of contact in Jordan and they do not have enough experience in responding to sensitive questions. Therefore, the selection of a suitable research instrument is a very important issue and thus the distribution was done on a personal level.

It is worth noting that, the questionnaire for this study has a two-stage pre-testing procedure. First: the questionnaire was read carefully by experts and peers in face-to-face interviews with them. The researcher then asked for comments and criticisms. More consideration was given towards respondents' questions that were hesitant or did not understand. Moving ahead, the full pilot study was carried out testing the draft questionnaire with a small number of participants before conducting the main study. This helped to secure suitable and reliable responses.

Finally, the technique of back-translation was used because the researcher was working in one language (English) and translating the questionnaire into another language (Arabic). Then, the translated questionnaire is translated back into the original language by a third person so as to test out the preservation of the original meaning (Gorard, 2001).

4.7 Pilot study

The main aspect of this study was concerned with collecting information and attitudes towards developing a fuller understanding of the main determinants of SSCE within the Kingdom of Jordan. Therefore, the multifaceted design approach needs first a preliminary pilot study to be undertaken to enable a better questionnaire to be prepared and tested that

includes the most important factors and variables to determine and explain the contribution evasion problem and avoid any loaded questions.

The development of this questionnaire relied on an extensive review of tax evasion literature in general and on SSCE in particular, preliminary interviews and via the researcher' own experience of working with the JSSC.

The following sections describe the pilot study's purposes, the participants, the procedures followed, the results, and the limitations.

4.7.1 Rationale for the Pilot study

Conducting a pilot study is considered to be an important procedure because "following responses given can identify any misunderstandings, vague or incomprehensible questions" (De Vaus, 1991).

According to Yin (1994), the pilot study, "Helps investigators to refine their data collection plans with respect to both the content of the data and the procedures to be followed". Therefore, this kind of study provides information about the clarity of questions, response rate, identifies any specific methodological problems; uncovers specific variable techniques and procedures for coping with them. This helps get better questions and instructions that may be constructed as confusing before delivering the final survey to the sample participants. Gërxhani (2002) confirmed that "the ultimate goal

of the pilot study is to validate the questions and to check that respondents understood what was being asked in order to give reliable answers".

Without paying enough attention at this stage, the researcher is likely to either collect too much information or to discover later that key pieces of information are missing. Hence, a questionnaire that has not been appropriately pre-tested often turns out to have severe problems when used in the field. As a result, the design of the study needs to be modified in many aspects.

4.7.2 Selection of Pilot Study Participants

There is no general agreement upon sample size for a pilot test, although between 12 and 30 subject is generally recommended (Hunt *et al*, 1982). Hence, the sample for this pilot study consisted of fifteen firms allocated in Amman (the capital of Jordan) selected through purposive sampling (A purposive sampling is a non-probability sampling method used to choose a sample element for a specific purpose). This helped in the selection of the more qualified experts so as to give the best feedback about the contents of the questionnaires and research procedures.

The pilot test questionnaire was distributed to three general director managers, six company financial managers, four companies' human resource managers, and two chief personnel officers. They all had good qualifications and most of them have many years of experience of working in the JSSC. In addition, it was ensured that the key economic

sectors are encompassed. The pilot study sample included: seven firms in construction; three firms in services; four firms in manufacturing and one firm in the 'other' category, which represents to some extent, the proportion of these firms amongst sector research samples.

Pilot study firms were selected from listings, supplemented by asking the Inspection Department at JSSC to supply names of firms who were former evaders and currently participating in JSSC.

4.7.3 Method of delivery (Pilot Study Procedures)

A pilot study was conducted by the researcher from mid December 2005 to mid February 2006 with a small number of evaded firms, to test a five-page questionnaire which had been developed and tested with a pilot sample before conducting the main study. The researcher tested the survey on the same kind of firms who will be included in the main study.

The pilot questionnaire contains several statements aimed to simulate the same experience a survey respondent had when they evaded their contributions. These statements cover various issues are expected to be correlated with contribution evasion.

Close-ended questions have been used, where each question permits for all possible responses, but without overlap (Gorard, 2001). Although, ordinal scales such as 'strongly agree' to 'strongly disagree', have been used.

The questionnaires were delivered to each respondent personally, together with the covering letter which emphasizes that each questionnaire should be adequately completed and would be collected again by the researcher.

The method has been chosen was the ‘self-administered questionnaire’, which seemed to be the most appropriate method in terms of culture context, logistic, financial and methodological aspects.

The main challenge for the researcher trying to investigate the contribution evasion problem is to convince evaders to admit to their real evasive behaviour. Therefore, the researcher attempted to explore ways to combat this problem by conducting the pilot study (as discussed in more details in data collection method and procedures). The present study will assure people of confidentiality and anonymity. Both questionnaires were in English and Arabic to help respondents who might not be proficient in English.

4.7.4 Result Interpretation and modifications

The questionnaire contained statements to identify factors and variables which may induce contribution evasion and general information about the firms being investigated. Furthermore, respondents were instructed to write their comments at the end of each questionnaire. The result provided the researcher with a preliminary indication of the importance of EF, LRS, CME, and ESC pertinent in determining JSSCE behaviour.

The pilot studies were conducted before the selection of the final data collection-and prior to the final study's theoretical propositions. Thus the pilot data provided considerable insight into the basic issues being studied. This information was used simultaneously with an ongoing revision of related literature, so that the ultimate study design was informed both by prevailing theories and by a fresh set of empirical observations. The dual sources of information helped to ensure that the study to be made reflected important theoretical or policy issues as well as questions related to the current study (Yin, 1994).

The valuable comments and feedback of returned questionnaires proved to be very useful. Some of the improvements and the amendments entailed: four questions being redesigned in a way that made them more applicable to Jordan; minor reworking to clarify three other questions; the exclusion of a thirteen questions as it was deemed to repeat a previous question or proved to be inappropriate; another question was reallocated; two questions were added referring to the overall experience, but especially with regard to personal contacts.

The pilot study gave some indications of the amount of time needed to complete the sample, which was around 20 minutes per questionnaire and the response rate was 80 %, which means that 12 out of 15 firms returned their completed questionnaires. This high response rate is an indication that, distributing the questionnaire by the researcher personally may overcome response rate problem.

4.7.5 Pilot study limitations

In developing countries like Jordan, people have a tendency not to cooperate with someone asking them to fill out a questionnaire, especially, when it based on their personal experiences. It is linked to a social environment with a general lack of trust in others, especially government representatives. Generally, Jordanians have no experience in responding to sensitive issues such as contribution evasion. Therefore, careful selection of an appropriate research instrument and making a personal contact are very important factors.

The pilot study concluded that in order to conduct a successful field survey on sensitive issues like contribution evasion in such countries similar to Jordan, country specific institutional and cultural features must be taken into account.

4.8 Statistical Techniques

The main objective of statistical analysis is to identify empirical relationships that related to the original questions. Statistics assist the evaluator to determine 1) whether a relationship between two variables exists, 2) whether other variables are also involved in the observed relationship between two variables, and 3) the relative “strength” of the observed relationship (Alexander & Austin (1992).

In this study the variables will be classified into both dependent and independent variables demonstrating causal relationships between them. In this relationship, contribution evasion is examined as a dependent variables influenced by four main independent factors which may explain the JSSCE problem.

Before commencing with the analysis of statistics, it is essential to present the research requirements of the data analysis. This covers the determination of the statistical tools, as well as their reliability and validity, and the level of confidence (95%) (Alexander and Austin, 1992).

One of the statistical techniques to be used in this study is PCA. This analysis aims to classify underlying factors that explain the pattern of correlation within a set of observed variables. This is called the data reduction procedure, which means identifying a small number of factors that explain most of the variance observed in a larger number of existing variables (Nie et al., 1975). As a result, our PCA will reduce the selected attitudinal variables in the number of main groupings. By carefully considering the statements combined in the same factor, the researcher will be able to interpret the underlying common attitude.

In addition, the main statistical method to be used in this thesis is a standard multiple regression because the dependent variable is an interval measurement and the independent variables are *not* interrelated with each other (as it was proved later). The purpose of multiple regression analysis is to inform the researcher how much of the

variance in the dependent variable can be explained by the independent variables. It also offers a suggestion of the qualified input of each independent variable. Tests allow the determination of the statistical importance of the results both in terms of the model itself, and the individual independent variables (Pallant, 2005). Generally, in selecting suitable applications of multiple regression, the researcher must consider three primary issues: (1) the appropriateness of the research problem, (2) specification of a statistical relationship, and (3) selection of the dependent and independent variables (Hair et al 2003).

Two frequent multivariate regression statistics are used. They are the base regression model and a supplementary regression model. (As will be shown in more details later in chapter 7) They seek empirical evidence between dependent and independent variables. Jackson and Milliron (1986) indicate that compliance variables appear to be highly correlated. This means multivariate rather than univariate testing will be appropriate. Multivariate analysis refers to all statistical methods that simultaneously analyse multiple measurements on each individual or object under investigation.

All the multivariate methods, except for cluster analysis and multidimensional scaling, are formed on the statistical supposition of a population's values or relationships between variables from a randomly picked section of that population. The purpose of multivariate analysis is to calculate, explain, and predict the level of relationship among variates (a linear combination of variables with empirically determined weights) (Hair, et al, 2003).

The variables (statements) will be grouped in factors and subjected to reliability analysis. The model applied was Alpha (Cronbach), which provides a coefficient between 0 and 1,

estimating the internal consistency among the variables in each group. The closer the alpha to 1.0, the better the internal consistency of items tested (Shelton 2002).

The primary worry when validating the results is to make certain that the results are generalisable to the population and not particular to the sample used in evaluation. The most direct method in validation is to get hold of another example from the population and calculate the connection of the results from the two samples. In the deficiency of an additional sample, the researcher can assess the soundness of the results through several approaches. For the intention of this thesis, the researcher examined the adjusted R^2 value. In this situation, the adjusted R^2 value is comparable with an R^2 value (the adjusted R^2 value is .733 as compared with an R^2 value of .741 (see chapter seven). This indicates that the estimated model maintains an adequate ratio of observation to variable in the variate (Hair et al 2003).

When assessing the reality of a relationship, statisticians have worked out standards that are frequently referred to as confidence levels. This means that the relationship is very unlikely to have happened by chance or error. Should the assessor repeat the study 100 times, one should observe the same occurrence 95 times. This standard of significance also shares the acceptance or rejection of the null hypothesis. The null hypothesis allows that there is no relationship between the independent and dependent variables. In this thesis, statistical importance is 95% under an error rate of 5%. If the Sig is less than 5%, the null hypothesis is rejected and the alternative hypothesis is accepted. 95% is often known and used in academe especially within social studies (Alexander J. & AustinJ. (1992).

4.9 Summary

This chapter demonstrated the research philosophy, methods, approaches, strategies, research method selection and data availability used in this study. Initially, research design is explanatory where the reason for carrying out the explanatory research is to discover cause/effect relationships between particular variables, (Saunders *et al*, 2000) and due to the time horizon, data for this study is cross-sectional, which means a set of observations on one or more variables is collected at the same point of time (Gujarati, 2003).

Due to the research problem and objectives of this thesis, a combination of quantitative and qualitative methods was used to enhance the research quality and research generalability. Two methods of data collection have been used: secondary data collected through websites, internet, literature review, reports, statistics, census and previous surveys to achieve background information about the research problem, and primary data collected from semi-structured interviews and self-administrated questionnaires

A theoretical model to undertake empirical analysis to explain the main determinant of CE is displayed. The developed model offers a framework for the understanding of the influence of those socio-economic and psychological components on taxpayers' compliance decision-making behaviour. It also shows the relationship between the variables that are related to the research problem as stated at the literature review chapter.

The model takes into consideration the factors that leading to SSCE which involves economic and non-economic factors. Economic factors include: contribution evasion penalty rate, inspection probability, SS contribution rate, and Basic Economic Model extension variables, such as: a firm's financial hardship, and the rate of unemployment. Non-economic factors can be seen through the prism of the position of contributors and how they are influenced by a number of factors that include: outlook towards public institutions, perceived SSL fairness, established social norms, and chances of discovery and penalty for non-compliance. All these factors are examined and assessed through a data analysis methodology.

Furthermore, prepared hypotheses were tendered with respect to the determining factors of contribution evasion and expanded into testable plans to examine if the researcher could ascertain a suitable explanation, and to then clarify the association between contribution evasion and the issues which appear to be connected with them. Generally, each hypothesis is introduced by an attached paragraph connecting the hypothesis back to the theories that it is based on.

Also, the chapter moved ahead towards a sample survey and identified and explained the data collection methods and procedures and assessed their validity and reliability. Furthermore, details of the pilot study, the statistical technique which is to be used in testing the hypotheses, were presented.

CHAPTER FIVE

PRINCIPAL-COMPONENT ANALYSIS

5.1 Introduction

This chapter aims to examine the underlying dimensions of the scale measuring the views of evading Jordanian firms about the contribution evasion problem and to develop a simple solution against which the hypotheses could be tested. The research survey was designed and developed mostly on the basis of key variables identified from the available literature and pilot study to discover the factors that are known to have an influence on respondent attitudes towards contribution evasion. Generally, the tax evasion literature suggests that SSCE consists of more than one underlying factor.

The study lists thirty-nine statements that describe a number of opinions with regard to the research problem. If these variables can be represented in a smaller number of collected variables, then the other multivariate techniques can be given more rational results (Hair, et al, 1998). Therefore, the survey statements will be subjected to PCA which is a type of factor analysis (FA) that is generally used to analyse data arising from survey based collection methods (Pallant, 2005).

5.2 Scale Reliability

As essential part requirement of the preparation of the analysis of the data, the researcher undertook a test of reliability regarding all the factors before using them in the

subsequent analyses. The justification behind the reliability test is that each item or statement of the survey is required to be measured to make sure that all items on the scale are amply interrelated (Hair et al, 1998).

Reliability is “an assessment of the degree of consistency between multiple measurements of a variable” (Hair et al., 1998). Moreover, it is the average of all the correlations between every item and the total score that determines the internal consistency¹² among the variables.

In reality, we can apply a number of models to gauge reliability such as: Alpha (Cronbach), Split-half, Guttman, Parallel, and Strict Parallel. In this study; a Cronbach Alpha test was employed as it is thought to be one of the best ways of measuring the stability and consistency of the instrument (Coakes and Steed 1997; Sekaran, 2003). Generally, Cronbach's Alpha is an index of reliability related to the variation accounted for by the true score of the "underlying construct." The construct is the hypothetical variable that is being measured in this particular case (Hatcher, 1994).

The closer the alpha to 1.0, the greater the internal consistency of items tested (Shelton (2002). Hatcher, (1994) and Reynaldo and Santos (1999) have suggested 0.7 to be an adequate reliability coefficient but occasionally lower than that is used in the literature as an acceptable reliability coefficient.

¹² Internal consistency refers to the data collection methods, what it was intended to measure and indicated the stability and consistency of the surveys.

Cronbach's Alpha test was performed on 229 occasions to evaluate the reliability of the instrument and to find out items that lower the consistency of the whole scale. The results are presented in table 5.1 below.

Table 5.1
Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluding	0	0
	Total	229	100.0

Table 5.2 Reliability Statistics

Cronbach's Alpha	Cronbach Alpha Based on Standardised Items	N of Items
.780	Alpha = .797	34

The coefficient alpha is equal to 0.797 for the thirty four items of the JSSCE after moving five items. .70 is the cut-off value for a satisfactory result. Furthermore, the results indicate some potential improvement in the scale by the elimination of items that, once removed, improve the alpha coefficient for the entire scale. It indicates that if the five items were to be deleted then the value of alpha will increase from the current .678 to .797. Therefore, the removal of these items from the scale will make the construct more reliable for use as a predictor variable. The remaining statements were subject to PCA.

5.3 Factor analysis

FA is a general name given to a group of multivariate statistical methods whose primary purpose is to identify the underlying structure in a data matrix. It addresses the problem

of analysing the structure of the interrelationships among a large number of variables by defining a set of common underlying dimensions known as factors (Hair et al, 1998). Specifically, FA techniques can satisfy either of two objectives: (1) the identification of structure through data summarisation or (2) data reduction.

Exploratory and Confirmatory FA (EFA & CFA) are the two major types of FA. The purpose of EFA is to identify the factor structure or model for a set of variables. This often involves determining how many factors exist, as well as the pattern of the factor loadings. EFA provides an opportunity for consolidating variables and for generating hypotheses about underlying processes. CFA is, on the other hand, used in the advanced stages of the research process to test a theory about latent processes (Tabachnick and Fidell, 2007). A table below 5.2 illustrates the difference of the above definitions.

Table 5.3 the difference of the above definitions

This table has been removed due to third party copyright. The unabridged version of the thesis can be viewed at the Lanchester Library, Coventry University

Table 5.1 Definition of Exploratory and confirmatory factor analyses Stevens (1996)

Generally, the most frequently used methods presented in the EFA package, are Principal Component analysis (PCA) and Principal Factors analysis (PFA).

The preference of either PCA or PFA depends on a researcher's assessment of the fit between the two models, the data set, and the goals of the research (Tabachnick and

Fidell, 2007). Both techniques often produce similar results and processes are also similar except in the preparation of the observed correlation matrix for extraction, and in the underlying theory mathematically. The main difference between PCA and PFA is in the variance that is analysed (Tabachnick and Fidell, 2007). Stevens (1996) gives a number of reasons for the preference of PCA. He proposes that it is simpler to use mathematically, and it avoids some of the potential factor quality problems of vagueness and poor definition regarding the PFA.

5.4 Assumptions of Principal-Component Analysis

Generally speaking, the most important assumptions that underlie the PCA are more conceptual than statistical. From a statistical point of view, the hypotheses of normality, homoscedasticity, and linearity must be considered only as far as that they could negatively affect the observed correlations. In fact, some degree of multicollinearity is necessary because the objective is to identify interrelated sets of variables. Tabachnick and Fidell, (2007) suggest a spot check of some combination of variables. Unless there is an obvious indication of a curvilinear relationship, researchers are probably safe to proceed, since they have an adequate sample size and ratio of cases to variables. The data was checked through various SPSS programs against the statistical assumptions of multivariate analysis and was found to be satisfactory (see chapter 7).

In addition to the statistical bases for the correlations of the data matrix, the researcher must also guarantee that the data matrix has adequate correlations to justify the application of PCA. If visual inspection reveals no substantial number of correlations

greater than .30, then PCA is probably inappropriate (*Hair et al*, 1998). Inspection of the correlation matrix reveals that 13 of the 32 correlations (41 percent) are significant at the .01 levels. This provides a decent basis for proceeding to the next stage (*Hair et al*, 1998).

Another method of determining the suitability of PCA is to examine the entire correlation matrix. The Bartlett test of sphericity, a statistical test for the presence of correlations among the variables, is one such measure. It provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables (*Hair et al*, 1998). In this study, the correlations, when taken overall, are significant at the .0001 levels, see Table 5.3.

Table 5.4

Table 5.3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.672
Bartlett's Test of Sphericity	Approx. Chi-Square	4888.222
	df	561
	Sig.	.000

An additional step when performing a PCA is to calculate the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. The KMO index range is from 0 to 1, with 0.6 suggested as an appropriate value for a good PCA (Tabachnick and Fidell, 2007). In this study, the KMO value is .672 which is more than the recommended value mentioned above as shown in table (5.3).

Furthermore, adequate sample size is an important issue to be considered in determining whether a particular data set is suitable for PCA. Correlation coefficients tend to be less reliable when estimated from small samples. Therefore, it is critical that sample size be large enough that correlations are reliably estimated. The researcher generally would not PCA a sample of fewer than 50 observations, and preferably the sample size should be 100 or larger because the sample size of 100 provides an adequate basis for the calculation of the correlations between variables (Sapnas and Zeller, 2002). As a general rule, the minimum is to have at least five times as many observations as there are variables to be analysed (Hair, et al, 1998). The sample size in this research is 229 and it has a 7.2:1 ratio of observations to factors which is more than sufficient.

5.5 Results of Principal-Component Analysis

As explained in chapter four, the results of the initial phase revealed thirty nine variables might affect respondent attitudes towards the JSSCE. The purpose of that phase was to determine a comprehensive list of variables which included every possible variable. The main concern, at this stage, according to Stapleton (1997) is whether a smaller number of factors can give an explanation for the covariation among the original, larger set of variables.

In general, there are two steps, which are the interpretation of the factors and the selection of the final factor solution (Stapleton, 1997).

5.5.1 Extracting the factors

The first stage in the design of PCA concentrates on the choice of factors to be entered in the correlation matrix. This requires the determination of the factors that best equate the interrelations between items (Pallant 2005). Although there are many types of extraction technique that are available for use (e.g. Principal Component, Factor Component, Alpha Factors), the most commonly used of these is Principal Components (Pallant, 2005). Principal-Component was employed in order to remove the preliminary factors, which look at the alternative of reducing possible data-reduction by creating a new set of variables that are associated with the data interrelation (Gërxhani, 2002).

- Number of Factors to Extract

There are numerous methods that can be used in deciding how many factors can be retained (Gorsuch, 1983). The most commonly used technique is the latent root criterion (*Hair et al*, 1998).

By using the latent root criterion to find out how many factors (or components) to extract, researchers need to take into account a few pieces of information which would be provided in the output. Researchers are concerned only in factors that have an Eigenvalue of 1 or more because only the factors having latent roots or Eigenvalues greater than 1 are considered significant. Generally, using the Eigenvalue to establish a cut-off point is most reliable when the number of variables is between 20 and 50 (Pallant. 2005). A total Variance Explained Table was produced to determine how many components meet this criterion. Eleven factors were found with Eigenvalues greater than 1.00 (See Table 5.4).

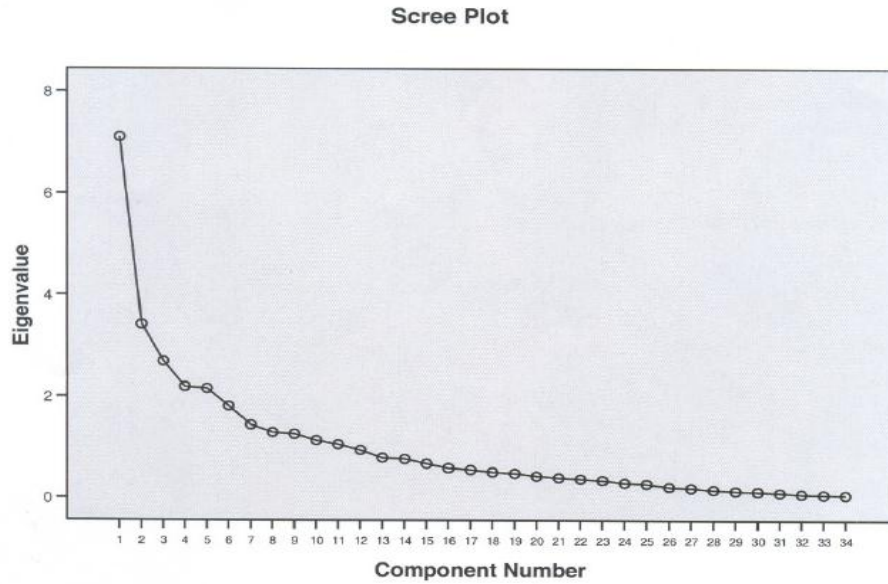
These eleven factors explain a total of 75.07 percent of the variance (see Cumulative % column).

Table 5.5: Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	7.007	20.750	20.874
2	3.416	10.046	30.920
3	2.688	7.908	35.828
4	2.190	0.442	45.267
5	2.153	6.237	51.599
6	1.806	5.312	56.912
7	1.430	4.333	61.144
8	1.290	3.795	51.939
9	1.259	3.703	68.642
10	1.133	3.331	71.973
11	1.053	3.097	75.070

Thus, using the latent root criterion extracted too many factors; so, multiple decision criteria are required to determine the number of factors to be retained. Accordingly, it is important to consider another criterion - the scree plot test- so as to decide the number of factors. The rule is to look for a change (or elbow) in the shape of the plot. Only factors above this point are retained. A scrutiny of the scree plot revealed quite a clear break between the fourth and fifth factors (figure 5.1).

Figure 5.1



Factors 1, 2, 3 and 4 explain much more of the variance than the remaining factors. Also, there is another break after the sixth factor, which is worth investigating, since PCA is used as a data exploration technique rather than any hard and fast statistical rule, however, this is at a researcher's discretion (Tabachnick and Fidell, 2007). Therefore, six and four factor solutions were tested. Table 5.5 contains the information regarding the six possible factors and their relative explanatory power as expressed by their Eigenvalues 56.912%.

Table 5.6

Component	Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative %
1	7.097	20.750	20.874
2	3.416	10.046	30.920
3	2.688	7.908	35.828
4	2.190	6.442	45.267
5	2.153	6.237	51.599
6	1.806	5.312	56.912

After defining the various elements of the unrotated factor matrix, the factor loading patterns should be examined. This shows the loadings of each of the items on the six components. The first factor accounts for the largest amount of variance and is a general factor, with almost every variable having a high loading above .5. Those on the second factor show four variables (q16, q5, q18 and q26), which also have high loadings. Very few items load on factors 3 and 4 (table 5.6).

Given the above result, it was decided to keep the four factor solution. These results, sustained by the scree plot results, were used as these factors account for a high percentage of the total variance (45.267 %) as seen in Table 5.5. This was also supported by the literature review and the results of the interviews; therefore, the researcher proceeded to rotate the factor matrix before redistributing the variance from the earlier factors to the later factors (Hair et al 1998).

Table 5.7
Component Matrix

	Component			
	1	2	3	4
Q12	.700			
Q23	.656		.355	
Q1	.641			
Q21	.627	.388		
Q19	.624	.331		
Q39	.616		.301	
Q17	.612			
Q20	.606			
Q2	.546		.403	
Q31	.510		.385	
Q10	.507	.327	.468	.388
Q14	.505			.434
Q37	.503			.496
Q25	.500			
Q27	.480			
Q11	.480			
Q30	.430			
Q6	.430			
Q24	.358	.346		.307
Q38	.321			
Q32	.306		.311	
Q29		.730		
Q16		.547		
Q5		.544		
Q18		.542	.325	
Q26		.487		
Q15		.452	.361	
Q35	.334	.442	.412	.407
Q3	.341		.627	
Q4	.521	.305	.547	
Q13				.597
Q36	.360	.423		.438
Q7				.411
		1.806	5.312	56.912

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalisation
a. Rotation converged in 14 interactions

5.5.2 Rotation

A rotational method has been followed as a second stage so as to achieve simpler and potentially more meaningful factor results. In most situations, rotation of the factors improves the results by reducing some of the ambiguities that often go along with initial unrotated factor solutions. Factor rotation is a process by which the solution is made more interpretable without changing its underlying mathematical properties (Tabachnick and Fidell, 2007).

According to Tabachnick and Fidell, (2007) a decision has to be made between orthogonal and oblique rotation. In orthogonal rotation, the factors are uncorrelated and a loading matrix is produced, which is interpreted by looking at which observed variables correlate with which factor. Orthogonal solutions offer ease of interpretation, description, and analysis of results. If rotation is oblique, several additional matrices are produced, namely: a structure matrix of correlations between factors and variables and a pattern matrix of unique relationships between each factor and each observed variable.

Varimax, quartimax, and equamax are three orthogonal techniques available, but the most commonly used is varimax, which is a variance maximising procedure. The goal of varimax rotation is to maximise the variance of factor loadings by making high loadings higher and low ones lower for each factor (Tabachnick and Fidell, 2007).

By Applying an Orthogonal Varimax rotated factor solution, the first factor accounts for 13.484 percent of the variance, compared to 20.874 percent in the unrotated solution.

Likewise, the second factor accounts for 11.720 percent versus 10.046 percent in the unrotated solution, the third factor accounts for 10.259 percent versus 7.906 percent in the unrotated solution and finally, the fourth factor accounts for 9.804 percent versus 6.442 percent in the unrotated solution. The total variance explained (45.267 percent) does not change after rotation, just the way that it is distributed between the four components. Thus, the explanatory power has shifted slightly to a more even distribution because of the rotation as well as the interpretation of the factor matrix, which has been simplified as shown in table 5.7.

Table 5.8

Rotation Sums of Squared Loading		
Total	% of Variance	Cumulative %
4.585	13.484	13.484
3.985	11.720	25.205
3.488	10.259	35.463
3.333	9.804	45.267

Once the number of factors is determined, it is important to look at the rotated matrix to determine the number of variables that load on each factor. Generally speaking, if only one variable loads highly on a factor, the factor is poorly defined (Tabachnick and Fidell, 2007).

5.5.3 Interpreting the Factors

Following the preliminary extraction and rotation of factors, an interpretation of these factors is necessary.

Interpretation of factors is supposed to provide better understanding of the underlying dimensions that unify the group of variables loading on those factors. Generally, literature provides good guidelines for interpretation of the meaning of each factor; for instance Hair *et al.* (1998) suggested guidelines by assigning meanings to the outlines of factors, and choosing a label or name for each factor. Firstly, the higher loadings are thought to be more important and have a stronger influence on the factor name. Secondly, the factor name is not assigned by the factor analysis computer program; instead, it is intuitively developed by the researcher based on its suitability for the representation of the underlying dimensions of a particular factor.

According to Stapleton, (1997), Kim and Meuller (1978) pointed out that “factor analysis does not tell the researcher what substantive labels or meaning to attach to the factors. The researcher must make this decision. Factor analysis is purely a statistical technique indicating, which, and to what degree, variables relate to an underlying and undefined factor. The substantive meaning given to a factor is typically based on the researcher's careful examination of what the high loading variables measure”.

- Naming the Factors

A minimum acceptable level of significance for factor loadings must be selected before any moves towards the interpretation stage; all significant factor loadings are typically employed in the interpretation process. However, as mentioned above variables with higher loadings tend to influence, to a greater extent, the name which will be selected to

represent a factor. The researcher should identify several key variables, which closely reflect the hypothesised underlying factors. This will help in validating the derived factors and assessing whether the results have practical significance (Hair, *et al*, 1998). Generally, key (marker) variables which are preferred are highly correlated with one, and only one, factor and load on it regardless of extraction or rotation technique (Tabachnick and Fidell, 2007).

As a rule, only variables with loading of .30 and above are interpreted (Tabachnick and Fidell, 2007). The greater the loading, the more the variable is a pure measure of the factor. Comrey and Lee (1992) recommended that loading in excess of .71 are considered excellent, .63 very good, .55 good, .45 fair, and .30 poor. On the other hand, George and Mallery, (2006) suggested the loading factor is acceptable if its above 0.5.

As the choice of cut-off point is the researcher's decision (Tabachnick and Fidell, 2001), the cut-off point for interpretation purposes in this study is all loadings .50 or above. This is a conservatively high cut-off. But in this thesis, the majority of the variables are loading above this threshold, which makes interpretation quite rational.

It is worth noting, that where variables do not load on any factor, two options are available to: (1) interpret the solution as it is and simply ignore those variables, or (2) evaluate each of those variables for possible deletion. Ignoring the variables may be suitable if the objective is solely data reduction. Consideration for deletion should depend on the variable's overall contribution to the research objectives (Hair, *et al*, 1998).

Results in the Rotated Component Matrix Table (5.8) revealed the loading of every variable on the four factors by examining the highest loading variables; the researcher can identify the nature of the underlying latent variable represented by each factor. Therefore, substantive interpretation is based on the significant higher loadings. The weighted loadings provide a clear distribution of statements across factors above the cut-off point, with one slight exemption, namely statement 23 "the JSSC has an efficient contribution recording and collection system".

Table 5.9
Rotated Component Matrix

	Component			
	1	2	3	4
Q21	.691			
Q1	.657			
Q20	.633			
Q17	.574	.423		
Q30	.560			
Q23	.552	.528		
Q7	.520			
Q27	.477			
Q24	.442			
Q10		.696		
Q38		.625		
Q37		.594	.367	
Q39	.376	.585		
Q5		.554		
Q31	.375	.550		
Q32		.449		
Q6		.367		
Q3			.759	
Q4	.330		.727	
Q25		.355	.627	
Q19	.489		.570	
Q2	.330		.523	
Q14		.417	.469	
Q12	.364	.422	.433	
Q11	.367		.367	
Q16				.698
Q36	.333			.670
Q35				.667
Q15				.569
Q34			.306	.545
Q18	.333			.541
Q26		.317		.528
Q13		.319	.394	.428
Q29				.304

- **Corporation management effectiveness factor**

The first factor has been named “management effectiveness (ME) of the JSSC” because most of these variables are related to corporation ME items except items 1 and 7. This factor consists of seven variables above the cut-off point; (items 21, 1, 20, 17, 30, 23, and 7). The first three ME variables (21, 20, and 17) are concerned with identifying whether the JSSC employees are very approachable, the JSSC employees are highly trained and professional and whether the administration handles the JSSC in an appropriate way or not.

The fourth ME variable (30) is concerned with a lack of knowledge and information provided by the JSSC while fifth ME variable (23) is concerned with the efficiency of the JSSC contribution recording and collection system. By a critical examination of this variable, which has loadings significant to two factors, a decision was made to consider this variable as a representative of a particular dimension which is CME.

This decision was determined by the researcher's *a priori* knowledge of the theory that one variable more than the others would logically be representative of the dimension. In addition, the variable loading is slightly higher in factor 1 than its loading in factor 2. In such cases, the researcher may choose the variable that is loading slightly higher as the best variable to represent a particular factor.

Variables 1 and 7 are representative of the JSSS, and are appropriate to the particular Jordanian economic situation. Moreover, the JSSS contains design features that support evasion that should be reallocated within legal and regulatory (LRS) variables instead of under ME variables despite the loading in factor 1. This conclusion has been made based

on the researcher's *a priori* knowledge of the literature review, which confirmed that these variables represent LRS variables.

- Ethical and social considerations factor

In the case of the second factor, six variables (10, 38, 37, 39, 5, and 31) loaded highly after item 23 (as mentioned in more details in factor 1 above) was excluded; four out of six variables (38, 37, 39, 31) are related to respondents' ethical and social considerations (ESC): namely most firms are honest through fear of getting caught. A high level of a sense of duty in a firm plays a vital role in combating contribution evasion, and firms who do evade contributions do not feel their actions are morally wrong. Firms are aware that contribution evasion could cause serious financial problems for the JSSS in the future. Thus, this is referred to as the ESC factor.

The fifth and six variables (10 and 5) loaded to this factor are concerned with the statement that Social Security Contribution rates are relatively high and there is a lack of linkage between JSSS contribution and benefits, which can be classified as economic and legal variables respectively. Therefore, it seems to be reasonable to claim that both of them should be relabelled as economic and legal factors because of their overall contribution to the research objectives through economic and legal influences, which are supported by strong evidence within the literature review.

- legal and regulatory structure factor

The third factor has been labelled the “legal and regulatory structure (LRS)” factor as it is made up of three variables (3, 4, and 2) which are highly loaded and concerned with LRS settings. These are; the current JSSS benefit only a firm’s owners; the current JSSS benefits only employees, and the current JSSS benefit both employers and employees equally. The fourth and fifth variables (25 and 19) are where there are easy opportunities to collude with SSC inspectors and the JSSC acts as a service institution treating taxpayers as partners; and are reallocated within ME variables as a result of their overall contribution to the research objectives through the influence of corporation ME, and are supported by strong evidence within the literature review.

- Economic factor

Finally, there are eight variables loaded to the fourth factor; three of which demonstrate the attitude toward economic factors (EF) (16, 15, and 13), namely the high cost to firms of employing their own accountants to calculate their employees contributions that could result in contribution evasion; high unemployment rates prevent employees complaining about firms not paying their contributions and, financial hardship of firms result in firms who avoid paying contributions. Therefore, it seems reasonable to make this factor represent the economic aspect especially as the highest variable loaded in this factor (marker variable) is an economic one.

The fourth and fifth variables loaded on this factor are concerned with ESC (36, 35), namely contribution evasion does not put a firm’s professional reputation at risk and

contribution evasion does not generate anxiety and guilt. Furthermore, variables (34, 18, and 26) are related to ME, namely computerised systems used by the JSSC which are quite efficient, and there is a lack of coordination between JSSC and other government bodies as well as with the implementation of JSSC compliance procedures which are themselves complicated.

Despite the fact that few variables have been loaded below the cut-off point, the decision was made to keep variables (27, 24 and 6) which loaded moderately on the first factor and second factor as LRS variables; namely laws and rules are complicated and are very difficult to understand, laws and rules are equally enforced by JSSC, and limited SS provision is one of the main reasons for non-compliance. Variables (14, 12, 11) on the third factor were also kept as economic variables, where firms avoid contributions to minimise labour costs, the fines for employers not making statutory contributions is relatively low, and the probability of being inspected is relatively low based on the researcher's *a priori* knowledge and overall contribution to the research objectives.

As for variable 29, there is no supervisory authority responsible for measuring the honesty of the SSC inspectorate and is loaded too low at 304 on the fourth factor and so was not significantly correlated with any of their views on contribution evasion; this item will be excluded from any further analysis since it does not also seem to measure the same dimensions as the other items.

Another statement (32) 'firms with better knowledge about SSS benefits are more compliant' was also dropped in order to keep the analysis comprehensible.

As a result, the factor analysis reduced the 32 selected attitudinal variables to four main groupings. This exercise yields the following interpretation and grouping:

I. Attitudes towards the JSSC management effectiveness

- 1 - The administration handles the JSSC in an appropriate way
- 2 - The JSSC acts as a service institution and treats taxpayers as partners
- 3 - JSSC employees are highly trained and professional
- 4 - JSSC employees are very approachable
- 5 - The implementation of JSSC compliance procedures is complicated
- 6 - The JSSC has an efficient contribution recording and collection system
- 7 - Laws and rules are equally enforced by the JSSC
- 8 - There are easy opportunities to collude with JSSC inspectors
- 9 - There is a lack of coordination between the JSSC and other government bodies
- 10- There is a lack of knowledge and information provided by the JSSC
- 11- Computerised systems used by the JSSC are quite efficient.

II. Attitudes towards ethical and social considerations

- 12- Most firms are honest through fear of being caught
- 13- The contribution evasion does not put a firm's professional reputation at risk
- 14- The contribution evasion does not generate anxiety and guilt
- 15- High levels of firms' sense of duty play a vital role in combating contribution evasion

16- Firms are aware that contribution evasion could cause serious financial problems for the JSSS in the future

17- Firms who do evade contributions don't feel their actions are morally wrong

III. Attitudes towards JSSS legal and regulatory structure

18- The JSSS is quite well-suited to the Jordanian economic situation

19- The JSSS contains some design features which encourage evasion

20- The current JSSS benefits only a firm's owners

21- The current JSSS benefits only employees

22- The current JSSS benefits both employers and employees equally

23- There is a lack of linkage between JSSS contributions and benefits

24- Limited SS provision is one of the main reasons for non-compliance

25- laws and rules are complicated and are very difficult to understand

IV. Attitudes towards the experience of financial and economic factors

26- JSS contribution rates are relatively high considering the benefits returned

27- The probability of being inspected is relatively low

28- The fines for employers not making statutory contributions is relatively low

29- Financial hardship results in firms who avoid paying contributions

30- Firms avoid contributions to minimise labour costs

31- The high cost to firms of employing their own accountants to calculate their employees' contributions could result in contribution evasion.

32- High unemployment rates prevent employees complaining about firms not paying their contributions

5.6. Summary

The chapter starts by testing scale reliability where the coefficient alpha was found equal 0.797 for the thirty four items of the JSSCE after moving five items which is more than satisfactory. Then, the factor analysis where discussed in term of its definitions, types and the assumptions of Principal-Component analysis.

A rationale of PCA is to identify the factor structure or model for a set of variables. This often involves determining how many factors exist, as well as the pattern of the factor loadings. PCA provides an opportunity for consolidating variables and for generating hypotheses about underlying processes.

An exploratory PCA was used to examine the structure of the JSSCE problem from the perspective of the Jordanian firm evaders. The common reasons were extracted and rotated during PCA and were interpreted and empirically summarised by four main factors to represent the attitudes about the influence of EF, ME, LRS and ESC on the research problem.

By revealed the loading of every variable on the factors through examining the highest loading variables; the researcher can identify the nature of the underlying latent variable represented by each factor. Therefore, substantive interpretation is based on the

significant higher loadings. The weighted loadings provide a clear distribution of statements across factors above the cut-off point.

The first factor has been named “management effectiveness (ME) of the JSSC” because most of these variables are related to corporation ME items. This factor consists of eleven variables above the cut-off point.

In the case of the second factor, six variables loaded highly related to respondents’ ethical and social considerations (ESC). Thus, this is referred to as the ESC factor. The third factor has been labelled the “legal and regulatory structure (LRS)” factor as it is made up of variables which are highly loaded and concerned with LRS settings. This factor consists of eight variables above the cut-off point.

Finally, there are seven variables loaded to the fourth factor; which demonstrate the attitude toward economic factors (EF). Therefore, it seems reasonable to make this factor represent the economic aspect especially as the highest variable loaded in this factor (marker variable) is an economic one.

As a result, the factor analysis reduced the 32 selected attitudinal variables to four main groupings. By carefully taking into consideration the statements combined in the same factor, the researcher attempted to interpret the underlying common attitude.

CHAPTER SIX

DESCRIPTIVE ANALYSIS

6.1 Introduction

Descriptive analysis aims at the transformation of data obtained in a survey or some other collection form into something that presents it in a way that it makes it clear of its meaning in a particular context. In this particular case, descriptive analysis was used to establish respondents' profiles and general characteristics and then, to summarise the respondent's answers to the statements in each factor. The discussion of respondents' answers offers a tool that demonstrates a clear perspective of the multiple factors at work, and that influences the extent of contribution evasion in the JSSC investigated in this study. Generally, data analysis involves examining, categorising, tabulating, or otherwise recombining the data in an appropriate form.

This chapter includes several sections. After the introduction, section 6.2 provides descriptive data on the firm characteristics of the sample firms. Section 6.3 shows the results of descriptive analysis and subsequently analyses responses (or attitudes) towards the dependent variable (in this case, contribution evasion). It also analyses firms' responses and the results of the independent factors (EF, LRS, ME, and ESC).

In addition, section 6.4 introduces the sample categorisation in firms' views towards the JSSCE by examining the size, ownership and sector categories. This analysis required the classification of the sample according to the firm sector, firm ownership and firm size.

Samples were placed in one of four categories based on firm sector. These were construction, manufacturing, services and other firms. Firm size was classified as either: small, medium or large, according to the number of employees. Firm ownership was classified as either self-employed, limited liability or limited partnership in share; these classifications provide relevant information on how firm characteristics affect the relationship between the independent and dependent variables. Finally, section 6.5 presented the summary of the chapter.

6.2 Firms' descriptive characteristics

With regard to the firm' size, the great majority of respondents were small (66.82 percent) while the medium and large firms represented 27.94% and 5.24% respectively. In term of firms' ownership, the average between self-employed (limited partnership), limited liability and limited partnerships was approximately 58.1%, 19.2% and 22.7% respectively. It is worth mentioning here that the proportion of small and self-employed evader's firms is much higher than those for other types of evader's firm because SS Corporation's facing troubles in monitoring of them as well as it is very difficult and costly to gather information about firms in this category. Many firms, remain, therefore undetected, (Burges and Stern 1993).

Based on industry type, over one third of the firms (39.3 percent) were construction, and approximately 24.5 percent were services and 24.9 percent were industrial. The remaining firms (11.4 percent) were classified as 'other'. Table 6.1 provides descriptive information for the full sample of firms.

Table 6.1 Descriptive statistics based on size, ownership, sectors of the research firms' sample, and the frequency and percentage of firm' classification

	Frequency	Percent
Sector		
Construction	90	39.3
Services	56	24.5
Industrial	57	24.9
Other	26	11.4
Total	229	100.0
Ownership		
Limited partnership	133	58.1
Limited liability	44	19.2
Limited partnership in share	52	22.7
Total	229	100.0
Size		
Small	153	66.8
Medium	64	27.9
Large	12	5.2
Total	229	100.0

6.3 Results of Descriptive Analysis

A field survey of former firm evaders was conducted in Amman, Jordan in mid-2008 (see also chapter four). 350 questionnaires were distributed, containing several statements which aimed to assess the respondents' attitudes towards JSSCE. These statements covered various issues, which were expected to be correlated with contribution evasion. The response rate was 65.4%, and yielded 229 valid questionnaires.

To achieve the objectives of this study, the frequency, percentage, mean average and the standard deviation were employed. As well as this, they helped determine the sample characteristics of the study and helped to develop primary insights into the data distribution. More specifically, these methodologies were used to analyse and interpret

the findings of the descriptive analysis statistics for research variables.

Appendix (6.2) presents the percentage distribution of the responses to each statement. It also contains the mean values, standard deviations and relative importance for the key variables used in the study.

6.3.1 Attitudes towards the Jordanian Social Security Contribution Evasion Problem

The study set out to ask two questions to demonstrate the attitudes of firms towards the dependent variable (the contribution evasion problem). 59.4% of the respondents agreed that contribution evasion is common and extensive while those respondents who had no opinion or disagreed were 12.7% and 27.9% respectively. 51.1% of them believed that contribution evasion is a decreasing problem while 19.2% and 29.7 of the respondents disagreed or were neutral towards this question. The two results, when considered together, act as an indicator of the JSS contribution evasion problem. Thus, the results indicate clearly that the majority of respondents felt contribution evasion was a common but decreasing problem in Jordan. The percentage, mean average and standard deviation for the dependent measures are summarised in Table 6.2 below.

Table 6.2

The percents, means and standard deviations for the dependent variable

	Strongly agree	Agree	Neutral	Disagree	strongly disagree	Mean	Std. Deviation
SSTE is common and extensive.	10.5%	48.9%	12.7%	27.9%	-	3.4192	1.00820
SSTE is a decreasing problem.	19.2%	31.9%	29.7%	19.2%	-	3.5109	1.01139

6.3.2 Attitudes towards Economics and Deterrence Variables

This thesis stresses the relevance of seven basic variables with regard to the attitude and experiences of traditional variables in an economic approach to contribution evasion. The results of the present sample indicate that 47.6% versus 47.2% of the respondents perceived that social security contribution rates are relatively high considering the benefits returned. Also, 52.4% versus 42.4% agreed that the probability of being inspected is relatively low and 36.7% versus 5.2% of the survey respondents believed that fines for employers not making statutory contributions was also relatively low. The remainder or 58.1% were neutral. Many studies argue that tax rate, audit probability, and fine rate are very important policy variables to combat the tax evasion problem. Blackwell, (2002) for example found an increase of audit and fine rates lead to more tax compliance. There was an inclination for higher tax rates to increase tax evasion, but it was not statistically significant.

On the other hand, 73.8% agree that the financial hardship of firms results in firms avoiding the paying of contributions. Other studies also support the survey findings about this point, Ritsema *et al*, (2003) and Strban (2007) provided evidence that lack of money at the time taxes were due was the main factor in the decision to evade. 75.5% versus 14.0% of the survey respondents estimated that the purpose of firms avoiding contributions is for the minimization of labour costs. This result is supported by McGillivray (2001) who confirmed that ‘in social security schemes where employers pay on behalf of their employees, there is an incentive for an employer not to contribute in order to reduce labour costs.’ 55.5% of the participants declared that the high cost to firms of employing their own accountants to calculate their employees’ taxes could result

in contribution evasion. This was especially seen to be the case for small firms, as they are well-covered in the present research sample (66.82% was small firms). This may be because small firms have a relatively small numbers of employees with a limited budget, and therefore, it might be prohibitively expensive for them to employ accountants.

Finally, regarding a high unemployment rate, 79% of the respondents believed high unemployment rates prevent employees complaining about firms not paying their taxes. This result supported Yaniv's view (1994) who indicated that employees would decide to complain to the authorities about not being paid as long as they had a chance to get another job. He considers that taxpayers' decisions to complain about evasion are dependent on employment level and regulation as they both promote compliance. In addition, Awad, et al, (1998) concluded that "A higher unemployment rate apparently decreases employers' fears of workers complaining about being paid, and therefore encourages reduced compliance".

Table 6.3
The percentages, means and relative importance of the attitudes towards economic
and deterrence variables

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	R-I
Social Security contribution rates are relatively high.	8.7	38.9	5.2	47.2	-	3.0917	.61834
The probability of being inspected is relatively low.	5.2	47.2	5.2	42.4	-	3.1528	.63056
The fines for employers not making statutory contributions is relatively low.	10.5	26.2	58.1	5.2	-	2.4192	.48384
Financial hardship of firms results in firms who avoid paying contributions.	10.5	63.3	12.2	12.2	1.7	3.6856	.73712
Firms avoid contributions to minimise labour costs.	12.2	63.3	10.5	14.0	-	3.7380	.7476
The high cost to firms of employing their own accountants to calculate their employees' contributions could result in CE.	9.2	46.3	5.2	35.5	3.5	3.2183	.64366
High unemployment rates prevent employees complaining about firms not paying their contributions.	22.7	56.3	8.7	12.2	-	3.8952	.77904

Table 6.3 shows that the sample demonstrated a negative opinion towards the efficiency of the SSC audit programme and penalty structure. In addition, it shows that the most important variables within this area to an employer reporting social security evasion are high levels of unemployment, the likelihood of an employer wanting to minimise labour costs, and the presence of financial hardship of firms at the time taxes were due. The relative importance¹³ of these variables is the highest among this factor with (0.779%, 0.747% and 0.737%) respectively.

¹³ Relative Importance: represents percentage for each variable that provides a measure of how important the variable was to overall result. Variables with highest percentage play a more significant role than those with smaller percentage.

6.3.3 Attitudes towards the Corporation Management Effectiveness

The perception of respondents' attitudes towards the JSSC administration and its performance was measured with eleven variables that were split into three indicator areas namely;

- 1) An indicator which evaluates how effective the JSSC works
- 2) An indicator which measures the perceived honesty and fairness of the JSSC
- 3) An indicator that shows how taxpayers perceive help and information they get from the JSSC. All three indicators presumably have an influence on social security contribution compliance.

Concerning effectiveness of the administration to sustain the scheme and to improve the quality of services introduced to insured persons and pensioners, 42.4% versus 27.9% of respondents agreed that the administration handles the JSSC in an appropriate way; 40.2% versus 35.3% believe that JSSC employees are highly trained and professional; 70.3% respondents agree that there is a lack of coordination between the JSSC and other government bodies. But the vast majority of the respondents, 80.8%, disagree that the implementation of JSSC compliance procedures is complicated. As a result, the participants confirmed that a lack of linkage between the SSC and other government bodies ranked as the most important variable regarding the effectiveness of JSSC. This had the highest mean (3.74) and highest relative importance (0.748).

Regarding the perceived fairness and honesty of the JSSC, 15.7% versus 66.8% agreed that the JSSC acts as a service institution and treats taxpayers as partners, but 50.7% versus 20.9% agreed that the JSSC employees are very approachable. In relation to non-preferability towards the JSSC employees' honesty, 43.7% agree that laws and rules are equally enforced by JSSC while 12.2% have the opposite opinion. This indicated that large percentages of respondents were moderately satisfied with the level of the sense of public justice in this area.

On the other hand, 36.7% of the respondents believed it is easy to collude with JSSC inspectors. This means that those of the respondents who estimated their chances of evading contributions successfully were those who thought they would do better than average if they colluded with SSC employees. Only 24.4% of participants disagreed and 38.8% had no opinion with regards to this statement. Vogel (1974) found that among a sample of Swedish taxpayers, 36% of participants reported their chances of evading taxes were higher than average. These findings of perceived fairness and honesty indicate that participants think the way that the JSSC treats taxpayers has a significant influence on social security contribution compliance as well as making them believe corruption to be a problem in Jordan. Generally, the presence of corruption weakens the tax commitment values of taxpayers towards tax compliance.

Regarding taxpayers' perception of the help and information they get from the JSSC, a majority of the survey respondents (55.9%) accepted the efficiency of the fiscal control system. Yet, only 14% disagreed. 72.1% versus 19.2% agreed that there is a lack of knowledge and information provided by the JSSC whereas, 52.8% versus 33.2% think

that the computerised system used by the JSSC is quite efficient. As shown in Table 6.5 below, the low quality and level of knowledge and information provided by the JSSC is considered to be the most important variable within this group, having a high relative importance of 0.737%.

Table 6.4
The percentages, means and relative importance for attitudes towards JSSC
administration performance

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	R-I
The administration handles the JSSC in an appropriate way.	3.5	38.9	29.7	27.9	-	3.1790	.6358
The JSSC acts as a service institution and treats taxpayers as partners	-	15.7	17.5	63.3	3.5	2.4541	.49082
The JSSC employees are highly trained and professional.	3.5	36.7	24.5	33.6	1.7	3.0655	.6131
The JSSC employees are very approachable.	-	50.7	28.4	19.2	1.7	3.2795	.6559
The implementation of JSSC compliance procedures is complicated.	-	10.5	8.7	37.1	43.7	1.8603	.37206
The JSSC has an efficient contribution recording and collection system.	3.5	52.4	30.1	14.0	-	3.4541	.69082
Laws and rules are equally enforced by JSSC.	14.0	29.7	44.1	12.2	-	3.4541	.69082
There are easy opportunities to collude with SSC inspectors.	-	36.7	38.8	23.1	1.4	3.1004	.62008
There is a lack of coordination between JSSC and other government bodies.	12.2	58.1	21.0	8.7	-	3.7380	.7476
There is a lack of knowledge and information provided by the JSSC	17.5	54.6	8.7	17.5	1.7	3.6856	.73712
Computerised systems used by the JSSC are quite efficient.	8.7	44.1	14.0	33.2	-	3.2838	.65676

Generally, survey findings suggest that these firms believe there is moderate satisfaction with the JSSC's performance. This problem appears to stem from the lack of quality and level of the JSSC's information, the way the corporation treats the firms and the relative satisfaction with the way that the administration handles corporate affairs. Added to this is the presence of a lack of coordination between the corporation and other parties. In addition, a number of these firms believe there are opportunities to collude with SSC employees. Yankelovich, Skelly and White (1984) found similar results which indicated credibility problems with the Internal Revenue Service (IRS).

Generally, credibility and trustworthiness have a strong impact on contribution evasion and such characteristics about formal institutions might make a firm comply more. Therefore, the expected effect on the extent of contribution evasion is going to be positive. Many studies can be found in the literature to support the relationship between the extent of tax evasion and some of the statements underlying this factor. For example, Friedman *et al* (1999) report a positive relationship between the share of the unofficial economy and the ineffectiveness of institutions (including corruption). Schneider and Enste (2000) attribute higher tax evasion to a long-term decline in civic virtue and loyalty towards public institutions. Both imply a positive correlation between this factor and evasion. In addition, Kelchev (2006) concluded that the aims of reducing the hidden economy should be included more in tax administration than in tax policy. He emphasised that, without the development of a modern, efficient administration oriented towards better quality of services, can only reduce the level of evasion of taxes and social security contributions to a limited extent.

6.3.4 Attitudes towards the Legal and Regulatory Structure of the Jordanian Social Security Scheme

As a part of the chapter objectives, trust in LRS was analysed in order to capture firms' attitudes towards LRS.

The respondents were asked to agree or disagree with eight statements about their attitudes to JSSS law and regulation. 54.2 % of the respondents felt strongly that the JSSS is suitable for the Jordanian economic situation. Moreover, 68.1% agreed that the JSSS currently benefits only employees, while 43.6% agree that the JSSS currently benefits only firms' owners. At the same time only 31.4% agree that the JSSS currently benefits both employers and employees equally. Although, 54.6 versus 27.9 % of participants seem to agree that there is a lack of linkage between JSSS contributions and benefits. The studies conducted by several researchers revealed that a stronger link between contributions paid and benefits resulting from SSS like pensions and compensations may increase effectiveness of the contribution collection (e.g. Strban, 2007).

In general, taxpayers are sensitive regarding input-output relations between what a firm pays with its contributions and what comes back from the JSSC. Thus, firms' contributions compliance might be influenced by the benefits received from the scheme in form of pension or other benefits compared to the price they paid for them. In addition, 77.3% of the respondents strongly agree that limited social security provision is one of the main reasons for contribution evasion, and this might be because only two main types of insurance (Insurance against work injuries and occupational diseases, as well as

insurance against old age, disability and death) out of five¹⁴ of the Jordanian Social Security provisions are currently implemented. 51.1% agree that the JSSS has design features which encourage evasion (e.g. the early retirement equation and the coverage policy). Finally, only 28.3% believed that laws and rules are complicated and very difficult to understand. The percentage, means and relative importance for the attitudes towards laws and regulations of the JSS scheme measures are summarised in Table 6.5.

Table 6.5
The percents, means and relative importance for the attitudes towards laws and regulations of the JSS scheme

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	R-I
The JSSS is quite suitable to the Jordanian economic situation.	10.5	43.7	14.4	27.9	3.5	3.2969	.65938
The JSSS contains some design features which encourage evasion.	3.5	47.6	26.2	22.7	-	3.3188	.66376
The current JSSS benefits only firm's owners.	5.2	38.4	10.5	35.4	10.5	2.9258	.58516
The current JSSS benefits only employees.	10.5	57.6	21.4	10.5	-	3.6812	.73624
The current JSSS benefits both employers and employees equally.	5.2	26.2	8.7	59.8	-	2.7686	.55372
There is a lack of linkage between JSSS contribution and benefits.	12.2	42.4	17.5	26.2	1.7	3.3712	.67424
Limited SS provision is one of the main reasons for noncompliance.	43.7	33.6	8.7	14.0	-	4.0699	.81398
Laws and rules are complicated and are very difficult to understand	5.2	23.1	15.7	41.9	14.0	2.6376	.52752

¹⁴ According to the provision of SSC; five social insurance categories should be provided: 1-Old age, disability and death; 2-Work injury and occupational diseases.; 3-Temporary disability due to sickness or maternity; 4-Unemployment; 5-Health insurance for the worker and the beneficiaries.

Table 6.5 above shows that means are rounding from 2.64 - 4.07 along with relative importance between 0.528 – 0.814. The answers indicate the agreement of the sample regarding the statements that measure this factor, except statements number 20, 22 and 25. Furthermore, the table shows that the statements of limited social security provision are one of the main reasons for contribution evasion, current JSSS benefit only employees and there is a lack of linkage between the JSSS contributions and benefits ranked the most important variables with high relative importance .814, .736 and .674 respectively.

6.3.5 Attitude towards Firms' Ethical and Social Considerations

Six questions were asked to measure the attitude of a firm's ESC. In some of these questions when the score value increases, firms demonstrate lower tax immorality and social norms towards the JSSCE problem. 72.1% of the respondents agree that firms who do evade social security contributions do not feel their actions are morally wrong. Generally, many studies, such as the study conducted by Schneider and Enste (2000), support this view that higher tax evasion is due to a decline in moral values with regards to taxpayer evasion behaviour. This means that if a high rate of tax immorality evasion is reported; more evasion is subsequently anticipated by these firms.

In addition, respondents were asked whether most firms are honest mainly because of a fear of getting caught. The result demonstrated that 41.9% of respondents agreed with the statement, while 48.9% of the respondents demonstrated the opposite opinion.

Participants were asked if SSCE does not generate anxiety and guilt as well as it does not put a firm's professional reputation at risk. The results indicated the respondents' agreement with the two statements by 64.6% and 61.5 respectively.

Moreover, 79% of the respondents believe that high level of a firm's sense of duty plays an important role in combating SSCE whereas only 59.8% declare that firms are aware that SS tax evasion could cause serious financial problems for the JSSS in the future. They suggest that respondents believed they were unlikely to undertake the same action if firms had a higher level of sense of duty and awareness. The percentages, means, standard deviations and relative importance of the attitudes towards ESC are summarised in Table 6.6.

Table 6.6
The percents, means and relative importance for the attitudes towards SS tax ethics
and perceived SS tax norms

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	R-I
Most firms are honest through fear of getting caught.	1.7	40.2	9.2	40.2	8.7	2.8603	.57206
CE does not put a firm's professional reputation at risk.	5.2	56.3	7.0	31.4	-	3.3537	.67074
CE does not generate anxiety and guilt.	3.5	61.1	12.7	19.2	3.5	3.4192	.68384
High level of firm sense of duty play a vital role in combating contribution evasion.	12.2	66.8	19.2	1.7	-	3.8952	.77904
Firms are aware that contribution evasion could cause serious financial problems for the JSSS in the future.	10.5	49.3	8.7	31.4	-	3.3886	.67772
Firms who do evade contributions don't feel their actions are morally wrong.	3.5	68.6	12.2	15.7	-	3.5983	.71966

The mean ESC ranged approximately from 2.86-3.90 with relative importance rounding from .572 - .780. The results revealed the agreement of the sample regarding all statements that measure this factor, except for one namely: most firms are honest only through fear of being caught. The absence of firms' sense of duty and firms' evasive attitudes towards SSCE can be considered to be the most important reason for the problem of the JSSCE within this area, having a high relative importance .78 and .72 respectively. It can be expected that a high intrinsic motivation for firm not to pay their contributions goes in line with their desire to lie and cheat. Generally, the respondents' results indicate that the former firms' behaviour was unethical and socially irresponsible with regard to the problem of the JSSCE.

6.4 The sample categorisation in Firms' Views towards Jordanian Social Security Contribution Evasion

As a part of the research descriptive analysis, this study has attempted to discover whether there were any important differences between firms' views and the research sample made regarding responses to the thirty-two statements in the questionnaire.

6.4.1 Firm's Views towards Jordanian Social Security Contribution Evasion among Sectors Categories

Generally speaking, there were no differences in firm's views between the construction sector and the research sample regarding the attitudes towards research statements except

that 50.0 % of construction participants responded that current JSSS benefits only firm owners compared with 43.6 % for the research sample. Whereas, in the services sector, 39.2 % of the participants considered that contribution rates are relatively high considering the benefits returned. This compares with 47.6 %, for the general sample, which was greater than it was in the other sectors. In addition, only 34.0 % of this sector estimated that the JSSC employees are highly trained and professional as opposed to 40.2% of the research sample.

Moreover, 35.1 % of industrial participants were less likely to perceive that JSSC employees are highly trained and professional as opposed to 40.2% of the sample research. Fewer of those who considered themselves an industrial company believed that most firms are honest and also feared getting caught, with 36.8 % versus 48.9 % for the research sample.

With respect to final classification sector (other firm sectors), this sector and the services sector also tended to perceive that the administration handles the JSSC in an appropriate way with fewer acceptable attitudes at only 34.6 % and 34.0 % respectively compared with 42.4 % of the research sample. Comparing with the other sectors, this sector believed more strongly than the sample research with reference to their views about the current JSSS benefit only firm owners with 57.6 % versus 43.6 %.

6.4.2 Firms' Views towards Jordanian Social Security Contribution Evasion among Ownership Firms Characteristics

There were six kinds of firms in the research survey (limited partnership, joint venture, limited liability, limited partnership in shares, public shareholding companies and any other company). As mentioned at the beginning of this chapter the SSCE exclusively presented in limited partnership, limited liability and limited partnership in shares.

Regarding limited partnership and limited liability firms, which accounted for a majority of the research sample, 58.1% and 19.2% respectively, there was total agreement between the respondents' attitudes in these firms and the research sample as well as the other firm's ownership category responses, regarding the research statements which measure different variables. But in relation to limited partnership in shared firms (which represent 22.7 %), there was general significant agreement between the respondents' attitudes of limited partnership in shared firms to the research sample, except in one area where their opinions of JSSC employees with regards to being highly trained and professional, where only 34.6 % agreed against 40.2 % for the research sample.

6.4.3 Firms' Views towards Jordanian Social Security Contribution among Different Firm Size Categories

Regarding firms' size categories, there were no differences between small firm participants which represented approximately two thirds of the research sample (66.82

percent) and the research sample towards the research statements except a small difference about the statement that the current JSSS benefits only firm's owners with 44.5 % of the small firms respondents compared to 43.6 for the research sample. Moreover, medium firms' size respondents which represented 19.2 %, showed complete agreement with the research target sample.

In contrast, large firm categories which represent only a small percentage, 5.24% confirmed some important differences with research target sample towards two research statements: Firstly, large firms underestimated attitude towards the level of contribution rates by 41.7% compared with 47.6% for the research sample. Secondly, large firms underestimated the easy existence of opportunities to collude with JSSC inspectors at 33.3% compared to 24.8% for the research sample that disagree with the statement above.

6.5 Summary

This chapter introduced a descriptive data analysis for the general characteristics of the sample firms and summarised information about the main variables of the study. The discussion of the respondents' attitudes towards the dependent variable (contribution evasion) and the independent factors (EF, LRS, ME, and ESC) offers a clear perspective of the economic and non-economic factors that influence SSCE which were investigated in this study.

In addition, the sample categorisation in firms' views towards the JSSCE by examining the size, ownership and sector categories were introduced. The analysis shows that there

are only a few differences between these sample categorisation and research target sample particularly in the case of large firm categories which confirmed some considerable differences with research target.

Frequencies and percentage, mean average and the standard deviation were employed by using SPSS 15 to achieve the objectives of this study. More specifically, they were used to analyse and interpret the findings of the descriptive statistics analysis for research variables.

Participants demonstrated negative opinions towards the efficiency of JSSC's audit program and penalty structure. In addition, they demonstrated that the most important economic variables that caused an employee to report CE are the high levels of unemployment within the country, the likelihood of an employer attempting to minimise labour costs, and the presence of financial hardship at the time contributions were due.

Generally, survey findings suggest that there is moderate satisfaction with JSSC's performance across the firms approached for this study. The problems highlighted, appear to stem from the lack of quality of information provided by JSSC, as well as the way in which the corporation treats firms, the relative satisfaction in the way that the administration handles its corporate affairs, and the lack of coordination between the corporation and outside parties. In addition, some firms believe there are real opportunities to collude with JSSC inspectors.

The result also show that limited JSS provision and a lack of linkage between JSSS contributions and benefits ranked as the most important variables within LRS. In addition, the absence of a firm's sense of duty and variable levels of morality towards JSSCE policy were considered as the most important reasons for the problem of contribution evasion within ESC. The respondents' results indicated that the former firm evaders' behaviour was unethical and socially irresponsible towards the problem of SSCE in Jordan.

CHAPTER SEVEN

RESULTS OF MULTIPLE REGRESSIONS ANALYSIS

7.1 Introduction

The main objective of this thesis is to investigate the problem of contribution evasion in Jordan from the former firm evaders' perspective. Therefore, this chapter aims to undertake an empirical analysis to determine why this should be so and to explain the impact of independent factors regarding the dependent variable (in this case, contribution evasion). These independent factors were derived from the Principal-Component Analysis PCA described previously in Chapter 5. There were four main factors which emerged. These were: The attitude and experiences of the respondents with reference to 1.EF 2.CME 3.LRS and 4. ESC of the Jordanian firms in their relation to Social Security contribution. All these factors have been examined and are supported by literature in chapter three as the main factors that influence contribution evasion problem.

Standard multiple regressions were performed in SPSS 15 in order to test the research hypotheses. Multiple regression considers the effect upon the dependent variable as measured by several simultaneous independent factors. Additionally, it provides the collective impact of all independent factors on the dependent variable, and also determines the coefficient of each variable as a predictor of a particular outcome. Furthermore, multiple regression provides a stable point of reference regarding the joint contribution made by a number of separate variables. These go some way to explain the key determinants of firms' potential evasion in social security contribution.

The empirical analysis in this chapter displays the results of multiple regression analysis which was conducted in two stages. In the first stage, we used the base regression model (aggregated stage). Here, an attempt was made to investigate the full collective relationship between all the independent factors and the contribution evasion. Additionally, we examined whether a particular factor predicted an outcome when the effects of other factors were controlled. The best explanatory factor of the contribution evasion among these factors was detected through this method. In the second stage, a supplementary regression model (disaggregated stage) was conducted to answer how far some of the firms' characteristics (firm industry type, size and ownership) influenced the relationship between independent factors and the contribution evasion.

Generally, the best way to demonstrate a survey's representativeness is by comparing the results to existing survey research data (Gërxhani, 2003). Thus, to investigate how much the data in this study was representative, a comparison with previous studies was made.

7.2 Assumption of Multiple Regressions

Multiple regression makes several assumptions about the information. These assumptions are required to be examined in order to ascertain whether errors of prediction are created by data characteristics not accounted for by the regression model or by the absence of an exact relationship amongst the variables (Hair *et al.* 1998). In this context three basic assumptions were tested: the normality of the data; the linearity of the phenomenon measured and the existence of homoscedasticity.

7.2.1 Normality

It is quite important to know if the data is distributed normally or not. Normality refers to the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution (Hair *et al.* 1998). If the variation from the normal distribution is sufficiently large, the resulting statistical tests are likely to be invalid. Coakes and Steed (1997) presented ways of measuring the normality of data such as the histogram, Boxplot, Normal Probability Plot, Detrended Normal Plot and Skewness and Kurtosis. The simplest diagnostic test for ordinarity is a visual check of the histogram that contrasts the observed data values with a distribution that approximates regular distribution. But a more reliable approach is the normal probability plot which contrasts the collective distribution of real data values with the collective distribution of a regular distribution. The regular distribution forms a straight diagonal line, and the plotted data values can be compared with the diagonal (Hair *et al.*, 2003).

Figure 7.1 Histogram

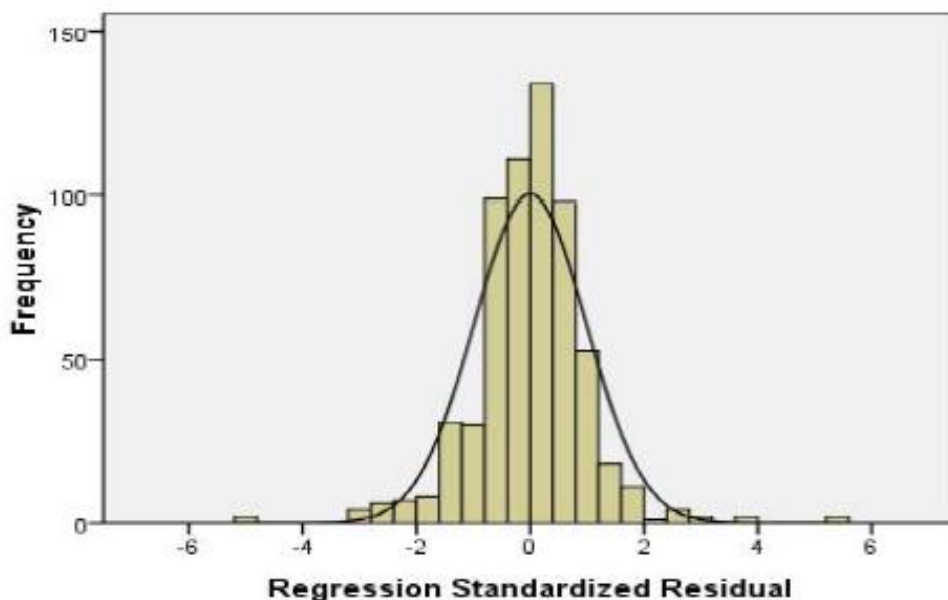
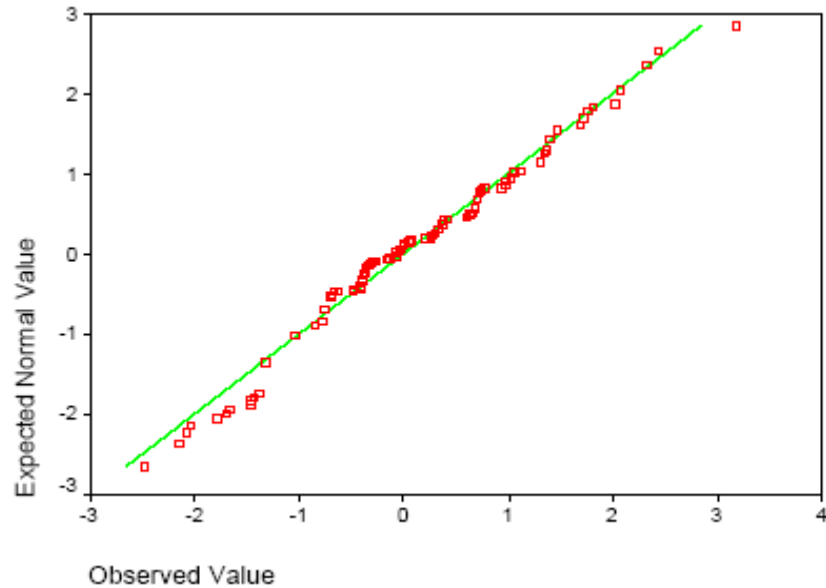


Figure 7.2 The normal probability plot

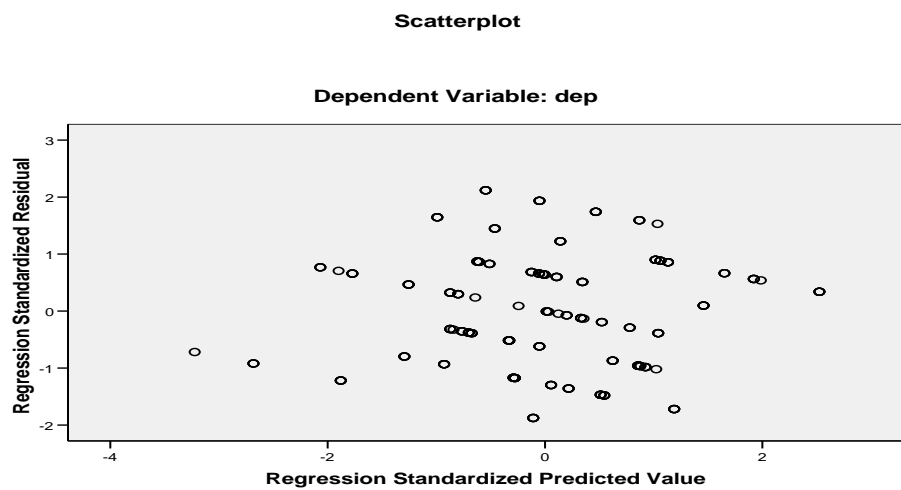


To gain insight as to the magnitude of this problem with respect to the current regression model, normality probability plots and histograms were constructed for both the dependent and independent variables (See figure 7.1 and 7.2 above) so that the distribution pattern of these variables could be assessed. The results of the normality of the data were evaluated and it was found normal distributed.

7.2.2 Linearity

The concept of linearity is concerned with the nature of the relationship between the dependent variable and the independent variable. The change in the dependent variable is associated with the change in an independent variable with a straight-line relationship (Tabachnick and Fidell, 1996). According to Hair *et al* (2003) the change should be constant across the range of values of the independent variables. The presence of non-linear effects may decrease the strength of the relationship (Tabachnick and Fidell, 1996).

The most general method to consider linearity is to study the scatter plots of variables to recognise any non-linear patterns in the data. As an essential part of the regression analysis, scatter plots were used in this study to calculate by visual inspection the degree of linearity and to perceive any non-linear pattern in the data. As a result, examination of the scatterplots does not reveal any apparent nonlinear relationships (see Figure 7.3, below).



7.2.3 Homoscedasticity

Homoscedasticity is required because the discrepancy between the dependent variables is explained in the dependence relationship, and should not be concentrated in only an imperfect range of the independent values (Hair *et al.*, 1998). According to Tabachnick and Fidell (1996) the homoscedasticity assumption is related to the normality assumption because when the assumption of normality is met, the relationships between variables are homoscedastic. Many of the problems with imbalanced variances come from one of two sources. The first is the type of variable included in the model. The second results from a

tilted distribution that creates heteroscedasticity. This causes predictions to be enhanced at some levels of the independent variable than at others. Going against this assumption frequently makes hypothesis tests either too conservative or too sensitive (Hair *et al.* 1998).

The test of homoscedasticity is best examined graphically. The graphical plot of residuals is used to disclose the existence of homoscedasticity (Hair *et al.*, 1998). In this study, SPSS was used to test graphically for the degree of heteroscedasticity by plotting the standardised residuals against the standardised predicted value. The model shows no strong existence of heteroscedasticity as shown in table 7.1. Therefore, those statistical graphical plots suggested that heteroscedasticity was not a major problem.

Table 7.1 Residuals Statistics (a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.0626	3.7343	3.0000	.29082	229
Std. Predicted Value	-3.223	2.525	.000	1.000	229
Standard Error of Predicted Value	.056	.241	.122	.033	229
Adjusted Predicted Value	2.1213	3.7196	3.0004	.28926	229
Residual	-1.46854	1.65862	.00000	.77436	229
Std. Residual	-1.876	2.118	.000	.989	229
Stud. Residual	-1.908	2.139	.000	1.001	229
Deleted Residual	-1.51970	1.69134	-.00040	.79342	229
Stud. Deleted Residual	-1.919	2.157	.000	1.004	229
Mahal. Distance	.186	20.556	4.978	3.220	229
Cook's Distance	.000	.021	.004	.005	229
Centered Leverage Value	.001	.090	.022	.014	229

a Dependent Variable: dep

7.2.4 Multicollinearity

Multicollinearity refers to the correlation among three or more independent variables. An acute case of multicollinearity is singularity, in which an independent variable is completely predicted by another independent variable. As multicollinearity grows, it limits the size of the coefficient of determination and forces it to be increasingly more complex and so difficult to add a unique explanatory prediction from the additional variables. And just as importantly, it makes the determination of the contribution of each independent variable more thorny because the effects of the independent variables are "mixed" or confounded (Hair *et al.*, 1998). The perfect state of affairs for a researcher would be to have a number of independent variables highly correlated with the dependent variable, but with little correlation amongst them.

Two of the more common measures for assessing collinearity problems are (1) the tolerance value and (2) its inverse-the variance. These measures tell us the degree to which each independent variable becomes a dependent variable and is regressed against the remaining independent variables. Tolerance is the amount of variability of the selected independent variables not explained by the other independent variables.

The Variable Inflation Factor (VIF) and Tolerance Value (TV) are the favoured techniques of measuring multicollinearity. The satisfactory value of TV is ≥ 0.1 and the VIF value below 10 (Kolacz, 2002). As shown in appendix 7-1, the tolerance values for each independent variable suggestion that multicollinearity is unlikely.

Furthermore, there are four important outputs in multiple regressions. The first is the value of the F-statistic, which indicates whether or not the model overall is significant. This value is important since an insignificant model provides no basis for further analysis (Kennedy, 1998). The second useful statistic produced by the regression analysis is the R square. It measures the proportion of the variance of the dependent variable about its mean that is explained by the independent variables (Hair et al 2003).

The coefficient can vary between 0 and 1. The higher the value of R², the greater the explanatory power of the regression equation, and therefore the better the predictor of the dependent variable (Bryman and Cramer, 2001). The third is the t coefficient which is used to determine whether or not an independent variable contributes significantly in explaining variation in the dependent variable at a selected level (here at the 5% significance level). The fourth important output is the Beta (the standardised regression coefficient) that reflects the relative importance of the independent variables in predicting the dependent variable (Hair et al. 2003).

Moreover, Buglear (2005) added that the correlation coefficient should be calculated to assess how closely the variables are related. In fact, correlation coefficients vary between -1.00 and +1.00; any relation close to 0.00 means there is no relationship between variables. A negative correlation coefficient indicates, therefore, that the two variables co-vary in an opposite direction while a positive correlation coefficient suggests that the two variables co-vary in the same direction.

As we can see, the previous section discussed the assumptions of multiple regression analysis and indicated that these assumptions were met. Therefore, the data in general complies with the requirements of multiple regression analysis. The data is ready for testing the hypotheses by estimating the regression model.

7.3 Results of regression analysis

The four independent factors included here namely: EF, CME, LRS and ESC cover 32 independent sub-factors (due to the fact that the purposive factors include a number of sub-factors) consisting of a combined set of variables. These variables derived from extensive review of TE literature in general and on SSCE in particular, pilot study and via the researcher' own experience of working with the JSSC.

7.3.1 Aggregated Stage

This section considers the empirical insights derived from the SPSS data analysis of the Social Security contribution context questions. It also examines how well the model can contribute to the issues under examination. Generally, the basic hypotheses are concerned with the influence of independent factors as mentioned above and as discussed in more detail in chapter five. A series of regression analyses were employed to analyse the collected data. Regression analyses were run with four independent factors and one dependent variable.

7.3.1.1 Evaluating the model

This section explains the overall multiple regression model and explains whether the proposed model successfully explains the factors of contribution evasion within the Jordanian firms' sample. A standard Multiple Regression for the group of factors was conducted so as to accept or reject the following basic hypothesis: that there is a significant relationship between the independent factors and the dependent variable. The results of the regression model for the full sample of firms are provided in Tables 7.2.A and B.

Table (7.2.A)
Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the estimate
1	.833	.733	.741	.49393

Table (7.2.B)
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	109.773	4	27.443	132.981	.000

As can be seen from in Tables (7.2.A and B) the regression model is highly significant at the 0.01 significant level ($F=132.981$) with the power to explain 73.3 % ($R\text{ square} = 0.733$) of the variation in the contribution evasion. Thus, approximately 0.73 of the variance in the dependent variable can be explained by the four factors adopted for the model. The result of $R\text{ square}$ explains a large proportion of the variation under examination. As a result, the null hypothesis that the coefficients associated with the four independent factors are equal to zero can be rejected at the 1% significance level and the basic hypothesis is supported. This result is consistent with what the researcher's own assumptions were as to the general factors determining contribution evasion.

A further standardised Coefficient (Beta) was performed to investigate the individual contribution of each of the independent factors in explaining contribution evasion in order to examine whether each factor alone was able to predict an outcome allowing for the other variables to be controlled. It is worth noting that the higher the correlation coefficient, the stronger the relationship and hence the greater the predictive accuracy (Hair, 1998).

As can be seen from in Table (7.3) significant results were obtained for all independent factor relationships with contribution evasion; the largest beta coefficient was 0.361 at the 1% significant level which was for LRS factor. This means that this factor has the strongest unique contribution to the explanation of the dependent variable, allowing for the control of all other factors. The regression results of the aggregate sample also show that there is a strong positive relationship between the contribution evasion and the EF, the coefficient for the EF being found to be positive and highly significant (beta = .347, $P = .000$) and this factor represents the next most important determinant of the contribution evasion problem.

The coefficient of the CME was also found to be positive and significant (beta = .208, $P = .000$). Finally, the empirical findings indicate that the ESC factor has a significant positive effect on contribution evasion (beta = .176, $P = .000$), even if other determinants, such as when the reliability of the LRS, CME, and EF are controlled. Accordingly, it can be argued that each of these factors is key determinants in the understanding of the contribution evasion problem.

Table 7.3
Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std Error	Beta		
1 (Constant)	-2.978	.279		-10.672	.000
ethics and social	.369	.087	.176	4.222	.000
economic	.700	.087	.347	8.079	.000
law	.609	.077	.361	7.950	.000
corpperfor	.433	.094	.208	4.610	.000

Based on the results obtained from the research methodology chapter (section 4.4.1), four sub-hypotheses were developed to obtain a better understanding of the relationships between the SSCE and the independent factors. The hypotheses were tested together with the 't coefficient' which indicates whether or not independent sub-factors contribute significantly in explaining variation in the dependent variable at a chosen significance level.

In the following section, the relationships between the independent factors and the contribution evasion are investigated separately using multiple regression analysis.

7.3.1.2 Economic Factors

The empirical part in this section investigates the effects of the economic context on contribution evasion. We used seven independent sub-factors namely: the contribution rate; the probability of detection; the financial penalty for avoiding payment; a firm's financial hardship; labour cost; labour supply (unemployment level), and the impact of cost in having an accountant. The use of sub-factors provides better understanding in

explaining the contribution evasion problem. Multiple regression analysis was used to examine (the alternative hypothesis) if there was a significant coefficient relationship between the EF and contribution evasion problem.

Tables 7.4.A, B and C show a model summary as produced by SPSS which display R square for regression, the F-statistic, the standardised regression coefficient (Beta) and coefficient relationships between the independent sub-factor and contribution evasion.

**Table 7.4.A
Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.663	.440	.438	.62026

**Table 7.4.B
ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	27.760	7	3.966	6.834	.000

As seen in Tables (7.4.A and 7.4.B) the regression results of an aggregate EF show significant and considerable effects on the contribution evasion and differ significantly from zero, $F = (6,834)$. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis mentioned above. This regression was significant and explained approximately (0.440) percent of the variation in the dependent variable in the view of respondents. The R square value indicates that (0.440) of the variability in the contribution evasion problem is predicted by the EF.

However, each of these sub-factors has been checked in order to know the value of the t

coefficient and Sig t (see Table 7.4.C) indicating whether these sub-factors contribute a statistically significant and/or unique contribution to the prediction of the research problem or not. Generally, if the Sig value is less than 0.05, then the variable contributes a significant unique contribution to the prediction of the dependent variable. If it is between 0.05 and 0.10, it indicates a weak significant relationship. When the Sig value is more than 0.10, then it can be concluded that variable is not making a significant unique contribution to the prediction of the dependent variable (Pallant, 2005).

Regarding the economic approach, only two of the estimations were significant at the 0.05 confidence level namely: contribution rate and the level of unemployment. The contribution rate has a positive coefficient relationship ($t=3.616$, $\text{Sig}=.000$). Thus, it is observed that the higher the contribution rate, the larger the relative size of the contribution evasion. The result for the overall sample is consistent with the findings in most prior studies, such as Crane and Nourzad, 1992; Blackwell, 2002 and Ralph, 2006. All of these studies found that a higher tax rate generally leads to more tax evasion. This is though not consistent with other studies such as Feinstein (1991) and Webley *et al.* (1991) who did not find a significant impact of marginal tax rates on the tax evasion problem. However, the theoretical economic model of tax compliance generally suggests that a higher tax rate will lead to a higher tax evasion problem.

The coefficient for the level of unemployment was found to be positive and highly significant ($t= 3.123$, $\text{Sig}=.002$). Empirical results supported this. For example, McGillivray (2001) confirms this when he mentions that the likelihood of being

detected as a non-compliant firm is mainly a result of labour market conditions and if there is a likelihood or not of the employee finding alternative employment if they lose their job.

In addition, the regression results also show one significant result in data set at 0.10 confidence levels. The research data indicates a positive and significant coefficient regarding the influence of a firm's ability to employ their own accountants for Jordanian firms' evasion behaviour ($t = 1.858$, $\text{Sig}=.065$). The results suggest that the fact that there are a higher proportion of evader firms amongst small firms (66.82%) as they have a relatively small numbers of employees and a limited budget.

On the other hand, four of the estimations were insignificant with neither a positive or negative coefficient relationship. The correlation between the likelihood of an audit and the degree of the contribution evasion was found to be negative and statistically insignificant ($t=1.095$, $\text{Sig}= 0.275$). The results demonstrate that expecting a higher probability of auditing considerably reduces the level of contribution evasion but not at significant levels. Generally, this result is consistent with the tax evasion theory predicted by Pestieau, *et al.* (1994), who reported that the higher the tax authority audit rate, the smaller the relative degree of tax evasion. Whereas, the low penalty rate has a positive but insignificant coefficient relationship with contribution evasion ($t= 1.284$, $\text{Sig}=.200$). Generally, in spite of the findings, it was statistically insignificant, but the direction of relationship is comparable with the empirical findings of the influence of probability of detection and penalty rate variables obtained by Cebula (1997), Blackwell

(2002) and Feld and Frey (2002) who confirmed that an increasing probability of audit and fines leads to lower tax evasion.

The coefficient of the financial dissatisfaction by the respondents is also found to be positive but insignificant ($t = .755$, $Sig = .451$). Moreover, a negative and highly insignificant coefficient was revealed for the statements that firms avoid contributions to minimise labour costs ($t = -.341$, $Sig = .734$).

Table 7.4.C - Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std Error	Beta		
1 (Constant)	2.612	.368		7.092	.000
q10	.172	.047	.233	3.616	.000
q11	-.204	.049	-.256	-1.095	.275
q12	-.029	.052	-.034	1.284	.200
q13	.049	.064	.050	.755	.451
q14	-.022	.063	-.023	-.341	.734
q15	-.107	.057	-.116	1.858	.065
q16	-.014	.044	-.019	3.123	.002

7.3.1.3 The Corporation Management Efficiency

It is reasonable that a positive assessment of JSSC management efficiency helps with a significant reduction of the contribution evasion problem. In a further step the researcher analysed the coefficient correlation between the CME and the contribution evasion.

**Table 7.5.A
Model Summary**

Model	R	R Square	Adjusted R Square	Std Error of the estimate
1	.620	.384	.381	.065

**Table 7.5.B
ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	60.435	11	5.494	12.475	.000

The results of the regression model of the CME revealed a significant effect on the contribution evasion problem (R square = .384 and F statistic = 12.475) as summarised in Tables (7.5 A and B). The value of the F statistic = 12.475 indicates the null hypothesis that the coefficients associated the impact of CME factor are equal to zero can be rejected at the 0.1% significant level.

The CME includes seven out of eleven sub-factors which were significant at the 0.05 level whereas only two significant results have been found in data set at 0.10 confidence levels.

Table 7.5.C summarised the regression results of the CME sub-factors. The results indicated that both statements; the impact upon the ways the corporation management handles the corporation affairs and whether the implementation of the compliance procedures is complicated have a negative coefficient relationship with contribution evasion ($t = -3.308$ and -2.009 respectively). Both coefficients are significant at the 0.05 significant levels. Generally, these results are consistent with the result of McGillivray

(2001) in the sense that more attention should be paid to the organizational management of SSS, its performance and its administrative operation.

He revealed that taxpayers may evade paying social security contributions because of the administrative complexity of compliance procedures. In addition, Kelchev (2006) concluded that the aims of reducing the hidden economy should be included more in tax administration than in tax policy. He emphasised that a decrease merely in tax rates, without the development of a modern, efficient administration oriented towards better quality of services, can only reduce the level of evasion of taxes and social security contributions to a limited extent.

In addition, the approachability of corporation employees and the extent to which laws and rules are equally enforced by the corporation's association with the contribution evasion are negative and significant ($t = -2.341$ and -3.461 respectively) at 0.05 significance level. Generally, the previous results confirmed that fairness and honesty have a significant positive effect on tax compliance behaviour (Smith 1992; Falkinger 1995; Tyler 1997; Feld and Frey 2002).

For those who have a good understanding of different aspects of the SSS, this might be a major contributor in raising negative feelings towards SSCE. Therefore, appropriateness of the information provided by the corporation is vitally important. The result revealed that lack of knowledge and information provided by the corporation has a negative impact on the contribution evasion with significant positive correlation ($t = 2.156$) at the

0.05 significant level. This finding is consistent with the finding reported by De Oliveira (1997) who found that lack of information and awareness about different aspects of the tax system can increase the incidence of tax evasion problem.

The result concerning the significance of the regression coefficient correlation regarding the efficiency of the JSSC computerised system indicated that it was the most important determinant of the contribution evasion among these variables. The association between the corporation's efficient use of a computerised system and contribution evasion is positive and significant ($t = 8.004$) at the .01 significant level. These findings are comparable to that obtained by Gary and Mitchell 1995; Masselli *et al*, 2000) who found that a lack of an efficient computerised tax system was likely to increase the level of tax evasion.

Furthermore, a significant strong positive correlation was discovered between the lack of coordination between the corporation and other governmental bodies and contribution evasion ($t = 2.165$, $\text{Sig} = .031$). This result is consistent with the result of Alm *et al* (1996) who found that information sharing between the SSPS and other official agencies could reduce the level of contribution evasion problem.

On the other hand, the results indicated that there was a weak significant but negative correlation between corruption and contribution evasion ($t = -1.943$, $\text{sig} = .053$). Generally, where taxpayers recognise corporation employees are corrupt; this can increase the level of contribution evasion. The results are consistent with the findings in

prior studies, particularly with the results of, Friedman *et al.* 2000, Jain 2001, Dreher and Schneider 2006). All of these studies found that countries with more corruption have a higher tax evasion problem. Whereas, there is also a negative weak significant correlation between the professionalism of the corporation employees and the contribution evasion at only .10 confidence level ($t = -1.756$, $Sig = .080$).

On the other hand, the regression model shows an insignificant relationship between only two sub-factors and with contribution evasion problem within that group. Negative correlation has been found between efficient contribution recording in the collection system and the contribution evasion ($t = -1.535$, $Sig = .126$). The findings of this study indicate that this variable has the inclination to reduce contribution evasion since the result demonstrated that the corporation has an efficient contribution recording and collection system. However, the coefficient is not significant. Whereas the way the corporation treats taxpayers as partners, its association with the contribution evasion is positive but insignificant ($t = .233$, $Sig = .816$).

Table 7.5.C Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std Error	Beta		
1 (Constant)	1.708	.405		4.216	.000
q17	-.219	.066	-.236	-3.308	.001
q18	.144	.067	.137	2.165	.031
q19	.052	.076	.050	.233	.816
q20	-.177	.072	-.204	-1.756	.080
q21	.188	.080	.189	-2.341	.020
q23	-.114	.074	-.107	-1.535	.126
q24	.192	.056	.205	3.461-	.001

q25	-.147	.076	-.144	-1.943	.053
q26	-.167	.047	-.195	-2.009	.046
q30	.117	.054	.143	2.156	.032
q34	.393	.049	.488	8.004	.000

7.3.1.4 The Impact of the Legal and Regulation Structure

This section presents the role of LRS in influencing a firm's behaviour toward the contribution evasion problem. Thus, it is reasonable to believe that firms with higher confidence in JSSL and regulations have higher social security contribution compliance.

The hypothesis in this context proposes that efficient LRS is related to lower contribution evasion levels. Multiple regression results shows that the proposed hypothesis cannot be rejected because the Jordanian Social Security legislation and regulation coefficient is found to be positive and significant ($F = 5.86$, $Sig = .000$) showing a statistically significant effect on the contribution evasion with the power to explain .482 ($R \text{ square} = .482$) of the variance in the evasion problem (see Tables 7.6.A and B). Accordingly, the regression result supports the hypothesis and one can decide that developing LRS is an important instrument to combat the extent of contribution evasion.

Table 7.6.A
Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the estimate
1	.694	.482	.480	.59669

Table 7.6.B
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	27.401	8	3.425	5.860	.000

Regression analyses were used to investigate the size and direction of the relationships between the independent sub-factors and the contribution evasion (see Table 7.6.C).

The data analysis revealed three positive significant relationships among these sub-factors and contribution evasion at the .05 significant levels. Concerning the significance of the regression coefficient correlation of both sub-factors, there is a lack of linkage between JSSS contribution and benefits; limited SS provision is arguably one of the main reasons for contribution evasion. The results are highly positive and significantly related to the contribution evasion problem ($t = 4.763, 3.242$) respectively. These findings are comparable to that obtained by (Smith 1992; Pommerehne *et al*, 1994, Peter and van Dijke, 2007) who found positive correlations between perceptions of fiscal inequity and evasion behaviour, where there appears to be a need to adjust the output of scheme provision to people's needs.

Additionally, the statement that the Jordanian Social Security Scheme (JSSS) contains some design features which encourage evasion is found to be positive and significantly related to the evasion problem, (2.938). This result is consistent with McGillivray (2001) who discovered that some provisions of SSPS can increase the SSCE problem¹⁵.

Furthermore, the researcher went on to analyse whether Social Security legislation and its implementation were too complicated and difficult to understand. The regression results demonstrate that there is negative relationship (-2.211 at the .05 significant level)

¹⁵ For example, an employer may arrange to keep the number of employees lower than specific number needed to be covered by the SS law.

between the contribution evasion and this sub-factor. This means the research respondents disagree with the view that social security law and regulation are complicated and difficult to understand and this sub-factor has no tendency to increase the contribution evasion problem. This result is consistent with the finding of (Blumenthal and Slemrod 1992; Smith, 1992 and Richardson, 2006) who found that complexity extensively reduces the perceived procedural fairness and simplifying the tax law and its regulation is the most effective way to achieve better compliance. Their findings are inconsistent with those found by Forest and Sheffrin (2002) though, who did not find a regular relationship between perception of complexity and perception of unfairness.

The implications whether the current JSSS benefits only firm's owners, employees, or both were investigated by using regression analyses. Examining whether the current JSSS benefits only employees yielded weak significant negative effects on the contribution evasion problem ($t = -.497$, $\text{Sig} = .62$) whereas the argument that the current JSSS benefits only employers was insignificantly but positively related to the contribution evasion ($t = 1.389$, $\text{sig} = .166$). Moreover, the hypothesis that the current JSSS benefits both employers and employees equally yielded insignificant negative effects (-1.258 , $\text{Sig} = .210$). Regarding the sub-factors mentioned above, a negative JSSL attitude by firms towards Jordanian Social Security contribution compliance by companies, seems to derive partly from the employer's' belief that the JSSS benefits employees more than it benefits employers and they might be less concerned about the collective welfare of the Jordanian society.

Finally, the results discovered a positive but insignificant relationship between a firm's compliance with the JSS contribution and their opinion about the appropriateness of the JSSS to the Jordanian economic situation ($t = .546$, $\text{Sig} = .585$).

Table 7.6.C
Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.3.011	.350		8.594	.000
q1	.030	.055	.040	.546	.585
q2	.072	.052	.102	1.389	.166
q3	-.040	.080	-.038	-.497	.62
q4	-.098	.077	-.119	-1.258	.210
q5	.242	.051	.309	4.763	.000
q6	.171	.053	.216	3.242	.001
q7	.185	.063	.193	2.938	.004
q27	-.122	.055	-.167	-2.211	.028

7.3.1.5 Ethical and Social Considerations

This section demonstrates the influences of ESC upon the decision of the firm to evade or not. Tables 7.7.A and B summarise the results of the multiple regression analysis of this factor on contribution evasion. The results show that lack of ESC is significant and positively related with the contribution evasion problem ($F = 8.143$, $\text{Sig} = .000$), while the R square for this regression model is .287. The results are consistent with our hypothesis that there is a significantly positive correlation between a lack of ESC and the contribution evasion problem. Generally, the regression results of the ESC demonstrated lower influences on the evasion problem compared with other factors of this study.

Table 7.7.A

Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the estimate
1	.536	.287	.284	.70001

Table 7.7.B

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	28.141	6	4.690	8.143	.000

Concerning the significance of the regression coefficients for the independent sub-factors of ESC, Table 7.7 C summarised the results which incorporate six independent sub-factors to determine possible effects on the research problem.

Feelings of shame and guilt in the regression analysis revealed positive and significant coefficient correlations with contribution evasion ($t = 4.206$, $\text{Sig} = .000$). This means the research sample shows a lack of feeling shame and guilt regarding contribution behaviour. Actually, this corresponds with the results of descriptive analysis and interviews where the respondents showed that contribution evasion does not generate anxiety and guilt towards contribution evasion behaviour and the result is consistent with the findings reported by Grasmick *et al.* (1991) who confirmed that feelings of shame and guilt are determinants of tax evasion and may influence tax evasion behaviour by reducing the perceived benefits of cheating.

Additionally, the regression model indicates positive significant correlation ($t = 1.702$) at the 0.10 significant level between the absence of influence of evasion upon the firm's

professional reputation. This finding is inconsistent with the finding that obtained by Sigala (2000) who found that British sole traders in their professional jobs avoid tax evasion because they believe that such actions put their professional reputation at risk.

Furthermore, the researcher went on to analyse whether firms who do evade the JSSS feel that their actions are morally wrong. The regression result indicates a positive and significant correlation between the respondent's morality towards social security contribution and contribution evasion ($t = 2.764$, $\text{Sig} = .006$). The results confirmed that evader firms have high levels of immorality towards the paying of contribution to the JSSS. Most of them do not believe their evasion is morally wrong. The finding for this variable is consistent with the findings in prior studies particularly with the results in (Schneider and Enste 2000; Gërxhani, 2004; Frey and Torgler 2007). All of these studies support this view that if a high level of tax immorality is reported by group of firms more evasion is anticipated by these firms.

Dissimilar results were found for the effect of sense of duty on contribution evasion. The result indicates negative and significant correlation between high levels of a firm's sense of duty and the contribution evasion ($t = - 3.621$, $\text{Sig} = .000$). The results indicated that high level of a firm's sense of duty might play a vital role in combating the contribution evasion problem.

Regarding Jordanian firms' awareness that contribution evasion could cause serious financial problems which may influence the sustainability of the scheme in the future is statistically found to be insignificant with a negative sign ($t = - 1.42$, $\text{Sig} = .299$). This

finding is inconsistent with the finding that obtained by McGillivray (2001) who found that SSCE may produce psychological costs regarding taxpayers' awareness that their action might cause serious financial problems to the sustainability of the SSS in the future. On the other hand, the result shows that the contribution evasion is positively influenced by the sub-factor mentioned that most firms are honest through fear of being caught and a high perceived risk of being caught has an impact on contribution evasion, showing a positive sign ($t = 1.171$, $Sig = .243$). Generally, Scholz and Pinney (1995) proposed that, the taxpayers' sense of duty towards paying taxes significantly determines the perceived probability and risk of being caught when cheating.

Table 7.7.C
Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.458	.486		7.114	.000
q31	-.054	.052	-.068	-1.042	.299
q35	.272	.065	.314	4.206	.000
q36	-.119	.070	-.142	-1.702	.090
q37	-.336	.093	-.249	-3.621	.000
q38	.058	.049	.077	1.171	.243
q39	.201	.073	.193	2.764	.006

Generally, the results of the analyses presented above allow one to consider these factors as key determinants in explaining the contribution evasion problem. Of these four factors, the LRS and EF make the largest unique contribution ($\beta = 0.482, 0.440$) when the regression analysis has been conducted for each factor separately. On the other hand, the SPSS analysis indicates that the CME factor remain highly significant (.384), but with a lower significance level and with lower coefficient and marginal effect values comparing to the first and second factors. However, the effect of the ESC was found to be relatively

smaller and made less of a contribution towards explaining the contribution evasion problem than did the other factors (0.287).

7.3.2 Disaggregated stage

One of the underlying purposes of this study is to examine the influence of company characteristics on the relationship between the independent research factors and the dependent variable. As noted in more detail in Chapter 4, the segmentation procedures are based on information sourced from the JSSC inspection department. Therefore a better test of this view can be obtained by studying sub-samples according to industry type, ownership and size. The results for the full sample were consistent with the view that there are difficulties with some of the Jordanian firms in complying with the Social Security contribution and these are reflected in the strong positive relationship between the research independent factors and the contribution evasion problem.

In general, this part of multiple regression analysis aims to discover whether there was any statistical difference on the level of importance placed on ranking of these factors among these firm's characteristics based on their significant and standardised coefficient. The differences in the observed coefficients for independent factors across the sub-samples should provide relevant information on how firm industry type, size and ownership influence the relationship between those factors and contribution evasion.

7.3.2.1 Industry type

The segmentation of the sample according to industry type is classified into four groups, (90 construction firms, 56 services firms, 57 industrial firms and 26 other firms' categories). For more information, please see Chapter 6.

Tables 7.8.A and B summarise the results of supplementary regression models, which incorporate several sector classifications. The results show that these models are all significant at the 0.01 significant levels (F statistics ranging from 28.653 to 69.169), while the R square for those regression models are .765, .787, .688 and .894 for the construction, services, industrial and others sector categories respectively. These are mostly consistent with the R square for the base regression model.

Table 7.8.A
Model Summary

Sector	Model	R	R Square	Adjusted R Square	Std Error of the estimate
Construction	1	.875	.765	.754	.36892
Services	1	.887	.877	.771	.39813
Industrial	1	.829	.688	.664	.56167
Others	1	.946	.894	.874	.23480

Table 7.8.B
ANOVA

Sector	Model	Sum of Squares	df	Mean Square	F	Sig.
construction	1 Regression	37.656	4	9.414	69.169	.000
Services	1 Regression	29.916	4	7.479	47.185	.000
Industrial	1 Regression	36.157	4	9.039	28.653	.000
Others	1 Regression	9.813	4	2.453	44.500	.000

The results for construction firms show that, both the LRS and CME factors have the strongest positive relationship upon the contribution evasion. The coefficients for the LRS and CME factors are .426 and .268 respectively and highly significant. Additionally, the results confirm the importance of the LRS and CME factors in services and other sector categories as well as confirming the importance of the EF in services, industrial and others sector ranging from .307 to .447.

For the ESC factor, its coefficient was extremely low even insignificant in the service, industrial and other sector categories at .05 levels. But there was significance for the construction and industrial sectors at .01 with (Sig = .000 and .062) respectively but not for services and other sectors with (Sig = .382 and .604) respectively (see Table 7.8.C).

These findings are generally consistent with the findings reported by base regression analysis which found that the LRS, EF and CME have the strongest statistically significant and positive relationship upon the contribution evasion (.482, .440 and .384 respectively). Therefore, the additional hypothesis regarding the positive relationship between the four independent factors and the contribution evasion as a dependent variable of the sub-sample industry type was also confirmed with the exception that the hypothesis regarding ESC is not fully supported by the multiple regression results. Table (7.8.C) contains details of supplementary evasion regression for classification industry type based on sample quota for this research.

Table 7.8.C
Coefficients

Sector	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
Construction	1 (Constant)	-2.940	.441		-6.659	.000
	economic	.365	.112	.208	3.246	.002
	law	.583	.096	.426	6.061	.000
	adperfor	.611	.153	.268	3.999	.000
	social	.494	.110	.255	4.492	.000
Services	1 (Constant)	-3.804	.523		-7.272	.000
	economic	.879	.162	.377	5.415	.000
	law	.478	.166	.261	2.881	.006
	adperfor	.997	.214	.430	4.658	.000
	social	.146	.165	.074	.883	.382
Industrial	1 (Constant)	-3.513	.650		-5.401	.000
	economic	1.010	.208	.447	4.844	.000
	law	.805	.184	.392	4.368	.000
	adperfor	.067	.193	.031	.346	.731
	social	.425	.223	.182	1.909	1.062
Others	1 (Constant)	-2.845	.513		-5.548	.000
	economic	.475	.188	.307	2.532	.019
	law	.729	.181	.379	4.036	.001
	adperfor	.676	.181	.405	3.735	.001
	social	.099	.187	.047	.527	.604

7.3.2.2. Firm's Ownership

The segmentation of the sample according to firm's ownership is classified into three various types namely: limited partnership (self employed) (58.1%), limited liability (19.2%) and limited partnership in shares (22.7%).

Table 7.9.A
Model Summary

Ownership	Model	R	R Square	Adjusted R Square	Std Error of the estimate
limited partnership	1	.859	.737	.729	.37622
limited liability	1	.883	.779	.756	.34419
limited partnership in share	1	.806	.650	.621	.61459

Table 7.9.B
ANOVA

Ownership	Model	Sum of Squares	df	Mean Square	F	Sig.
limited partnership	1 Regression	50.853	4	12.713	89.819	.000
limited liability	1 Regression	16.289	4	4.072	34.373	.000
limited partnership in share	1 Regression	33.016	4	8.254	21.852	.000

As seen in Tables (7.9.A and B) the regression model is highly significant for all firm's ownership categories; limited partnership, limited liability and limited partnership, in share ($F = 89.819, 34.373$ and 21.852) respectively, with the power to explain approximately .737, .779 and .650 in the variation in the firms' SSCE. Those explanatory powers are higher than those obtained by the base regression model (.733) except with that in limited partnership in share has less explanatory power at .65 than that obtained by the base regression model.

In the supplementary regression models of firm's ownership as shown in Table 7.9.C the LRS and EF remain the most important determinants of the contribution evasion as in the base regression model, and their regression coefficient is relatively stable across limited partnership and limited partnership in share with standardised coefficients ranging from .306 to .326 at the .05 significant level for LRS and ranging from .338 to .359 at the .05

significant level for EF. On the other hand, the CME factor has low coefficient and insignificant contribution to the determinant of contribution evasion for limited partnership in share (.062, sig = .528) and have reasonably stable regression coefficients among limited partnership, limited liability ranging from (.304 to .536) at the .05 significant level.

Concerning the significance of the regression coefficients of ESC for firms' ownership classification, the results are found to be less useful to the determinant of contribution evasion than the other factors in limited partnership with significant positive coefficient .156 at 5% level of confidence.

In summary, the supplementary regression results show higher coefficient of EF and LRS to the contribution evasion obtained in limited partnership firms which is the same result as with the base regression model. This relationship is though not found in limited liability firms. Whereas the regression results shows that there is a strong positive relationship between the CME and the ESC factors and the contribution evasion in limited liability firms, Table 7.9.C contains details of supplementary evasion regression for firms' ownership classification based on information has been quoted from the results of the research survey.

Table 7.9.C
Coefficients

ownership	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
limited partnership	1 (Constant)	-2.640	.311		-8.494	.000
	economic	.658	.103	.338	6.417	.000
	law	.495	.088	.326	5.636	.000
	adperfor	.561	.108	.304	5.210	.000
	social	.281	.096	.156	2.937	.004
limited liability	1 (Constant)	-2.912	.480		-6.061	.000
	economic	.282	.153	.168	1.844	.073
	law	.308	.153	.175	2.006	.052
	adperfor	1.044	.214	.536	4.869	.000
	social	.336	.153	.210	2.203	.034
limited partnership	1 (Constant)	-3.613	.915		-3.948	.000
	economic	.759	.254	.359	2.984	.005
	law	.600	.250	.306	2.405	.020
	adperfor	.141	.221	.062	.636	.528
	social	.854	.314	.270	2.724	.009

7.3.2.3 Firm Size

The classification of firm size is segmented into three groups (small, medium and large firms) based on the number of employees¹⁶. Small firms are defined as having less than or equal to 50 employees, while medium firms have greater than 50 and less than or equal to 200 and finally, large firms have greater than 200 employees. The total number of firms in the small firm size group (153) is equal to the 66.8% of the total sample. Whereas the total number of firms in the medium firm size group (64) accounts for 27.9%, only 12 firms (5.2%) represent the large firm size group. For this sub-sample

¹⁶ For example in Jordan (the minimum number needed to be covered by the scheme is five employees).

classification, more evasion is observed for small firms (66.82%) than for medium size or large size groups.

Tables 7.10 A and B present the supplementary evasion regression for the classification of firm size measured as firms' number of employees. The regression model for small firms is highly significant ($F=110.183$, $Sig=.000$) with the power to explain approximately 75% ($R^2 = .749$) in variation in the dependent variable. Whereas the regression model for large firms is significant ($F =10.706$, $Sig = .004$) with the power to explain approximately 86% ($R^2 = .860$) in the variation in the contribution evasion. Both results are found to be an improvement on the base regression model (.733). The regression model for medium firms was highly significant ($F =31.46$, $Sig = .000$) with the power to explain approximately 66% ($R^2 = .659$) of the variation in the dependent variable, although lower than the explanatory power obtained by the base regression model mentioned above (see Tables 7.10.A and B).

Table 7.10.A
Model Summary

employees	Model	R	R Square	Adjusted R Square	Std Error of the estimate
Small	1	.865	.749	.742	.39739
Medium	1	.825	.681	.659	.57418
large	1	.927	.860	.779	.11567

Table 7.10.B
ANOVA

employees	Model	Sum of Squares	df	Mean Square	F	Sig.
Small	1 Regression	69.601	4	17.400	110.183	.000
Medium	1 Regression	41.486	4	10.372	31.460	.000
large	1 Regression	.573	4	.143	10.706	.000

Concerning firms' size classifications, there were no significant differences between the sub-samples regressions based on small firm classifications (represented by approximately two thirds of the research sample) and the base regression. The LRS factor (Beta = .389, Sig = .000) and the EF (Beta = .291, Sig = .000) have higher positive coefficients and are significant at the 1% level. The CME has a positive coefficient and is found to be significant (Beta = .263, Sig = .000), whereas, the ESC factor has a lower positive coefficient and is significant at the 5% level (Beta = .147, Sig = .002).

Multiple regression of the medium firms' size classifications showed slight disagreement with the base regression research sample. EF and ESC factors were considered to be the most important determinants of contribution evasion with the standardised coefficient at .382 and .295, respectively at 1% level. The LRS coefficient were found to be positive and significant for the medium firm size group as the next important contributor to the evasion problem (.251) at 5% level, while the CME factor found to be the least coefficient and significant factor among medium firms size sub-sample classifications (.202) at 5% level (see Table 7.10.C).

In contrast, large firms, which represent only a small proportion (5.24%), showed the largest differences with the base regression model. Table 7.3.C shows a larger significant ESC coefficient (.666) at .5% level in the large firm as compared to the small firm and medium size group. This finding confirmed the fact that large firms have more commitment than small ones towards the ESC.

The regression results also show higher coefficients but are insignificant for the EF regarding the evasion problem in this classification (.330, sig = .151). This implies that large firms consider the above factor is more important in explaining the dependent variable over the other two factors. At the same time, the results revealed lower standardised regression coefficients (.153 and .302) and insignificant ones (.529% and .231%) for the LRS and CME respectively. This result indicates the smaller relative importance of these independent variables in predicting the dependent variable in large firms.

Table 7.10.C
Coefficients

employees	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
Small	1 (Constant)	-.2.591	.287		-9.025	.000
	economic	.562	.101	.291	5.585	.000
	law	.608	.082	.389	7.436	.000
	adperfor	.527	.112	.263	4.724	.000
	social	.269	.087	.147	3.107	.002
Medium	1 (Constant)	-4.810	.792		-6.073	.000
	economic	.828	.182	.382	4.558	.000
	law	.521	.198	.251	2.632	.011
	adperfor	.520	.209	.202	2.485	.016
	social	.887	.262	.295	3.383	.001
Large	1 (Constant)	-.688	.882		-.781	.460
	economic	.396	.246	.330	1.613	.151
	law	.095	.143	.153	.663	.529
	adperfor	.211	.161	.302	1.313	.231
	social	.546	.171	.666	3.191	.015

|

7.4 Conclusion

It is essential for the running of any social security system that dues are, in fact, paid. If they are not, the correct functioning of that social security system may well be weakened.

It is generally believed that for the sustainability of such a system, all due social

insurance contributions should be paid. If it becomes apparent that companies or their employees do not have to pay contributions for any reasons, this may undermine the credibility of social solidarity.

The JSSC is in urgent need of reform; that much is clear. And, if reform is not embraced, the financial burden on its budget in the middle and long term will mean that the pension system will lose its financial sustainability. JSSC reform must aim at re-arranging pension parameters—such as the conditions for early retirement, and the correlation between contribution input and pension level. Additionally, the JSSC must also aim to overcome administrative difficulties that lie at the door of JSSC's own management, which is still at the heart of much of what ails the Jordanian social security system.

This reform is essential and urgent. Jordan is in dire need of a full and comprehensive overhaul of its systems in terms of social security dues and pension hand-outs. It is not enough that there is a reform of just the parameters of the pension system; there is a requirement to fully re-imagine the current model for public pension dispersal; for coping with black economy work where earnings are not declared, and what is more, a terminally low collection rate, which again points at inefficiencies and illegalities within the current system. Pension reform should provide both the correct level of financial resources and increase the quantity and quality of insured nationals to a satisfactory level. Following the regression findings of this chapter, it is vital that the JSSC should re-engineer pension system parameters, including the contribution rate, which is in urgent need of reconstruction, in addition to remedying systemic design deficiencies which

actively encourage evasion because the legislation *as it exists* gives support for active payment evasion, rather than not discouraging evasion. There should also be a close correlation between contribution and benefit that currently does not exist. This should be done as the relationship between payment of contribution levels and consequent entitlement to benefits will certainly increase the effectiveness of the whole contribution and collection system.

Additionally, it is clear that there is a distinct lack of cooperation between taxpayers, employers, and within the management structure of the JSSC itself. This is one of the most important obstacles in the fight against ineffective contribution collection. Information flow is vital in this regard, with increased emphasis on communication between all parties; all concerned agencies and institutions *must* share relevant information for a centralization of information that would improve collection and reduce the potential for successful evasion and loss of revenue. For example, the tax agency, social security institutions and the customs service must be required to share information that would facilitate comparison of records and lead to identification of criminal employers and others who are required to pay contributions, but either do not pay at all, or do not pay what they are required. This could easily be achieved with more extensive use of information technology and could improve not only contribution collection and enforcement but also tax collection and follow-up as well.

Finally, it is essential to raise public awareness on the importance of paying social security contributions as a vital step towards more effective contribution collection and

enforcement. Agencies therefore, should as a matter of priority, introduce more measures and incentives that are compulsory and regulated and enforced by the legal system. Contribution evasion should be made a preeminent social issue, where the public are regularly and accurately informed on the importance of the social security system and how it is financed. The JSSC must adopt a simple, clear and easily understandable policy that must be effectively communicated to the public with the message that evasion will not be tolerated at any level of society. This will also involve a change in the mindset and attitudes of both workers and employers so that evasion is not viewed in any way as an acceptable practice.

CHAPTER EIGHT

INTERVIEW RESULTS

8.1 Introduction

The main focus of this thesis is the JSSCE problem. A qualitative method using semi-structured interviews was used to support the results of the quantitative research. The method employed comprised two kinds of interviews: the first one with representatives of former evader firms or employers and the other with employees at different levels in the JSSC. Specifically, JSSC employees are also involved in the process that could lead to the contribution evasion problem.

This chapter is structured as follows: the second section 8.2 presents the purpose of the interview; Section 8.3 identifies participants' descriptions; Section 8.4 introduces interview procedures; Section 8.5 discusses reasons that encourage non-compliance firms or employers to evade JSSC. Section 8.6 analyses, reports and comments upon the perceptions and attitudes of Social Security employees about reasons that discourage firm compliance. Section 8.7 presents a summary.

8.2 Purpose of the Interview

The interview is considered a very important part of the data collection process because it permits the interviewer to obtain information that may not be acquired through some

other data collection methods. In this study, interviews are used to complement questionnaires so as to explore or explain in depth any further details and information that relate to a participant's responses. That is to say, it aims to enhance and validate the questionnaire's findings.

Interviews have a number of advantages such as: there are no missing answers; respondents are able to express and clarify themselves better, and the interviewer can be sure of the identity of the interviewee. In addition, interviews are more flexible; the interviewer can adapt the situation to each subject (Gay, 1992). On the other hand, interviews have some serious drawbacks such as the fact that it can be difficult to identify a large group of qualified experts in the subject area. Also, there can be problems in obtaining the agreement of the interested parties on the choice of expert (Hussey and Hussey, 1997). Finally, as with any verbal scaling, the validity of the measurement can be put into question. For these reasons, interviews are not used as the sole source of data collection but are supported by other sources.

According to Bums (2000) and Bryman, (2001), there are three major types of interview: the structured interview; the semi-structured interviews and the unstructured interview. Structured interviews are employed in descriptive studies to obtain quantitative data. To use this method a predetermined list of questions is prepared and the interviewee is required to provide a forced-choice response (McClelland, 1994).

The unstructured interview is used to discover a general area in which the researcher is interested, such as explanatory studies (McDaniel and Gates, 1999). In an unstructured interview there is no predetermined list of questions to work through (Babbie, 1998). The interviewee is given the opportunity to speak freely in relation to the topic area (Bums, 2000), this kind of approach allows a degree of flexibility so that the researcher can omit or add questions in order to explore topics in more depth (Sekaran, 2003).

The final type of interview is semi-structured. This is the most common method of interviewing and is usually employed in the social sciences. This method is used to collect qualitative data, where the researcher has a list of questions or a specific subject to be discussed, but the interviewee has flexibility on how to answer. Moreover, the order of questioning or time spent may differ from interview to interview (Healey and Rawlinson, 1994).

Generally, researchers have two options in asking questions: they may ask open-ended or closed-ended questions (Jolliffe, 1986). A closed-ended question is one in which respondents are offered a choice of alternative answers. They may be used to acquiring specific information or to confirming a fact or opinion. These are more generally used in questionnaires. The open-ended question is not followed by any kind of choice, and the respondent is asked to give their own answer (Oppenheim, 1994). It is designed to encourage the interviewee to provide extensive and useful answers, and it is widely used in unstructured interviews and semi-structured interviews (Cooper and Schindler, 1998).

As this thesis relies on multiple sources of evidence, a semi-structured interview with open-ended questions was used to investigate and supplement the available quantitative data. The interviews were conducted for the purpose of gathering information about the sources of the contribution evasion problem from the perspective of non-compliance firms' representatives, as well as from the perspective of the JSSC employees'. This can be done by considering the major determinants of contribution evasion previously identified in the literature and in the phase of questionnaires stage. The interviewees provide subjective views on this topic.

8.3 Interview Participants

This thesis concentrates on the importance of understanding evading firms' behaviour in view of the overall contribution evasion problem. As well as this it also targets members of the JSSC as it is vitally important to understand the factors that both cause the problem and to avoid any misunderstanding. However, both employers and the JSSC tended to investigate more about their own specific role in contribution evasion problems rather than look at the larger picture, which is the focus here.

As it takes a significant amount of time, cost and effort to conduct an interview, the interview chapter was limited to a small number of participants. In total, seven employees from the JSSC and 10 representatives of evader firms' were interviewed between 14 July and 28 August, 2008.

The sampling technique used in the case of interviewees from firms was that of convenience sampling (available subjects). A convenience sample is a non-probability

sampling method that includes the choosing of subjects who can provide the necessary information and who are easier to reach for participation in the study. The interview sample included: four firms in construction; two firms in services; three firms in manufacturing, and one firm in the ‘other’ category which represent to some extent the proportionate of these firms amongst sector research sample. There were: (a) seven small firms; (b) two medium firms, and (c) one large firm. Each firm’s representative had a major position of responsibility in their firms (see Table 81).

Table 8.1 presents: the respective position; the firm’s sector, and size. C, S, M and O stand for Construction, Services, Manufacturing and Other respectively.

Number	Position	Size	Date
C1	Financial Manager	Small	14/07/08
C2	Owner	Small	15/07/08
C3	Financial Manager	Medium	18/07/08
C4	Financial Manager	Large	21/07/08
S1	Owner	Small	23/07/08
S2	General Manager	Small	24/07/08
M1	Financial Manager	Small	25/07/08
M2	Financial Manager	Small	28/07/08
M3	Administrative Manager	Medium	29/07/08
O1	Owner	Small	01/08/08

The selection of the JSSC employees was purposive. A purposive sampling is a non-probability sampling method used to choose a sample element for a specific purpose. The choice is of those people who are most knowledgeable about a particular problem and who can be selected as sample element (Hair et. al., 2003). The interviewees’ job

positions were: Financial Manager; Auditing Manager; Administrative Manager; Information Technology Manager; Inspection Manager, and Inspector. They all had high levels of education, as most interviewees had at least a Bachelor's Degree. Most of them have many years of experience of working in the JSSC (See Table 8.2 for more detail).

Table 8.2
The JSSC employees interviewed for the study

Number	Position	Education	Experience	Date
1	Financial Manager	Master Degree	25 years	11/08/08
2	Auditing Manager	Professional Degree	23 years	13/08/08
3	Administrative Manager	Bachelor Degree	27 years	18/08/08
4	Information Technology Manager	Master Degree	14 years	19/08/08
5	Inspection Manager	Bachelor Degree	21 years	23/08/08
6	Inspector	Bachelor Degree	11 years	25/08/08
7	Inspector	Bachelor Degree	8 years	28/08/08

8.4 Interview Methodology

The cooperation of potential interviewees is essential to the success of any interview. Therefore, preparation for the conduct of an interview should be carried out well in advance, should be scheduled within a time-frame and located somewhere suitable to the interviewees (McGivern, 2006).

In this thesis, potential interviewees from the research sample were approached by telephone to clarify the purpose of the study and the duration of the interview. They were also told that a telephone call would follow in a few days to verify their intention to participate and to arrange an appropriate place and time for the interview to take place. All interviewees were guaranteed complete confidentiality.

The interview was started with the thanking the interviewee, introducing the researcher and reminding them that the aim of the thesis was to find factors that determine contribution evasion in the JSSC. In addition, they were told that their points of view were very important to the thesis. The researcher interviewed each participant individually. Each interview consisted of a group of questions and lasted approximately one hour per interviewee. These questions cover various issues are expected to be correlated with contribution evasion which is included economic factor (e.g. - probability of detection and penalties) (ii) ESC (e.g. social influence and moral obligation), (iii) attitudes and perceptions CME (e.g. fairness of the tax system) and (iv) LRS (e.g. complexity of the tax system,) and finally, firms' characteristics (e.g. firms' sector and size). The core questions were based on the questionnaire used in the survey, but at the same time they were permitted to elaborate on their own views and perceptions about paying contributions. At the end of each interview, interviewees were given the opportunity to ask questions or comments.

All of the interviews were conducted in the interviewee's office in the Jordanian capital, Amman, where the research sample and the headquarters of the JSSC are located. Interviews were conducted in Arabic according to the requests of the interviewees and then translated to English. None of the interviewees allowed their interviews to be recorded (they were cautious about having their words recorded even in a confidential interview). In addition, voice recorders were not used on the understanding that people, especially those in the Arab world, tend to feel suspicious about such devices. Therefore,

notes were taken by the researcher during the interviews. In the next sections, interviews will be presented to show factors that encouraged the contribution evasion problem.

8.5 Interviews with Representatives of Former Evader Firms

As mentioned earlier, ten interviews were conducted with evader firms. All the firms' representatives declared knowledge to some extent of contribution evasion. They also believed that contribution evasion was a widespread phenomenon and continues to be a problem for many sectors even now. The vast majority of interviewees (9/10) reported a reduction in the level of contribution evasion at the time of writing as a result of an efficient auditing campaign carried out by the JSSC, and an increasing awareness level towards SSS benefits and advantages by contributors.

For example, a Financial Manager of one of the small construction firms who said he knew quite a lot about contribution evasion in the construction sector, answered when asked how much he knew about the SSS in general answered:

'I know as much as I need for my purposes; I normally coordinate with my accountant to get maximum benefits from the SSS with minimum contributions'.

Another interviewee who owned a small transportation firm gave a different reply:

'As an owner of a small firm, I don't really have to know very much about SSS because the accountant calculates how much social security contribution the firm has to pay and they just deduct it from salaries'.

When the same interviewee was asked if contribution evasion is common and whether many firms evade contributions, he said:

'It is common, and I know that many firms manipulate the scheme and pay a lower amount of contribution to the JSSC than they should do'.

Thus, the next step was to find out why contribution evasion is more common in certain sectors.

Most of the interviewees (8/10) reported that the contribution evasion problem is more common among small firms and self-employed workers. They confessed that this was so because they had many more chances to evade; perceived a low probability of auditing; regarded evasion as financially and socially tolerated, and perceived incidence of such transactions among co-workers therefore making it normative. They argued that their colleagues predictably showed similar contribution evasion behaviour since their business influenced both an opportunity to evade and gave them the chance to avoid risk of detection.

They added that, occasionally, evasion required collusion between employers and employees (Sometimes, the employees were content to pay a lower amount towards their contribution so as to increase their disposable income, and in exchange, employers would pay less in order to reduce labour cost). A General Manager who works in small hotel stated that:

'To be honest with you we are sometimes encouraged by the employees not to pay their Social Security contributions in order to maintain their disposable income. In fact, within the industry that I'm in, they tolerate contribution evasion. It is accepted in the small hotel.'

The following question: 'How would you describe the role of your organizational and institutional culture toward SSCE?' was a useful one. Most of the interviewees (8/10) agreed that their attitude about contribution evasion was significantly influenced by their perceptions of the dominance of contribution evasion amongst their colleagues. Only a few interviewees (2/10) thought that their attitude was influenced by ESC. Therefore, we have the instance of those working in construction or small hotels that are predicted to evade, are often detected more regularly. Whereas, those contributors in other specific occupational groups where their work requires more integrity and honesty often do are not.

Generally, a contributor's occupation determines their chances for reducing their contributions or not, which in turn influences their contributing behaviour. In an interview with the Financial Manager of one of the large construction firms, the

interviewee described the contribution evasion norm of the occupational group as follows:

'An employer might lose his business if detected evading while another employer might believe that full compliance would put him out of business as all his colleagues evade'.

The last groups of related questions concern the factors that determine the contribution evasion problem. More than half of the interviewees (6/10) referred to the contribution evasion problem as due to the ineffective LRS, followed by EF and a lack of CME. According to a few interviewees (3/10), the main issues associated with contribution evasion were, lack of administration effectiveness and fragile law and legislation, followed by immorality and social responsibility. Only a couple of interviewees (2/10) (one medium firm and one large firm) considered a lack of morality and social constraint as the main determinant factors followed by economic factors.

Regarding the Social Security legislation (SSL) and the regulatory structure, a lot of attention was paid by eight of the interviewees (whether small, medium or large firms) to the lack of equity consideration in the scheme; they confirmed the importance of reforming the design and structure of the Scheme. They believed that there was frequent misuse of the schemes' provision as well as being inconsistent legal regulations which make it easy for employers and employees to manipulate the scheme to their own benefit. In addition, the current scheme contains a number of overgenerous qualifying conditions,

such as early retirement pensions (at 45 years old) which do not have any sound actuarial reduction in respect of normal pensions.

The Financial Managers of the two small manufacturing and services firms stated that:

'We are ready to pay contributions to the extent that the SSS is ready to provide us with good pensions, compensations and benefits. Current contribution/compensation ratios are unequal; some are frustrated and try to equalise them, for example by decreasing their contribution, especially in the beginning of their participation in the SSS'.

Most (7/10) considered limited social security provision¹⁷ as one of the greatest incentives to evade social security contributions. This was because contributors may have a greater requirement for basic and current needs, like health care or pensions. Therefore, linking the payments for the two may reduce Social Security contribution evasion. They emphasise the importance of the implementation of other social security provision insurance, for example: unemployment and health care. Also, more than half of the interviewees (6/10) reported that, the scheme contains some design features which encourage evasion. For example, the owner of the small firm in the 'Other' category agreed that:

'As a small firm, an employee may claim to be self-employed if coverage of self-employed workers is voluntary. Where employers must have a minimum number

¹⁷ The corporation currently implemented only two kind of insurance out of six (insurance against work injuries and occupational diseases and insurance against old age, disability and death).

of employees¹⁸ or turnover for coverage under a scheme, they plan to keep the number of employees below this number'.

The EF continues to be very important. Most of the interviewees (8/10) believed that, having been inspected and expecting a higher probability of detection to a great extent reduces contribution evasion. Also, if firms recognise that a large number of firms in their line of work have been detected, their opportunity for contribution evasion decreases significantly. One of the interviewees affirmed that:

'As an owner of a small construction firm in a business group that has evaded contribution, being discovered evading was not a surprise. I expect that the inspection department of JSSC will check samples of my occupational group because people who work in this kind of work are more likely to evade. Given this history, I believe it is better for me, next time, to comply.'

A few interviewees (3/10) believed that, contribution rates were too high in light of the benefits returned. They considered the current contribution rates as another important contribution evasion determinant. Half of the interviewees (5/10) expected there would be an increase in contribution compliance if more firms thought that if they were discovered evading, they would have to pay a high penalty. Whereas only a couple of

¹⁸Some countries, for example Jordan, set a minimum number of employees (5 employees) firm size for mandatory social security participation.

interviewees (2/10) were convinced that lack of money to pay contributions at the time contributions were due, was a major determinant for contribution evasion.

More than half of the interviewees (6/10) agreed that, a high unemployment rate is an important EF in determining the contribution evasion problem. In an interview with the administrative manager of one of the medium-sized manufacturing firms, the interviewee stated:

'I totally agree that numbers of employees reporting non-compliance in firms will massively increase if they have more opportunity to get another job if they lose their job'.

All of the interviewees thought that the role of the corporation was very important and it should develop its operations. In addition, all of them believed that the corporation was able to influence the mentality and attitudes of firms that evaded, in a positive way. The corporation has, they believe, the power and the authority to amend laws and regulations for example by changing the term and condition of the early retirement pensions.

More than half of the interviewees (6/10) claimed that, there was inadequate and inaccurate information provided by the JSSC. They argued that firms needed to have the correct information from the corporation because of the responsibility it has if firms fail to pay contribution. In an interview with the Financial Manager of one of the medium construction firms, the interviewee stated:

'When you need any information about SSS you have to find it yourself; it is not easy to get it. Actually, we need more information than that is provided. In addition, we need more awareness campaigns of the benefits and services that the scheme can provide'.

A couple of interviewees (2/10) reported that there are corrupt inspectors. For an employee to evade contributions; there is normally collusion with the employer. Additionally, the employer could collude with inspectors. Both of the interviewees stated that

'In fact, I heard from a colleague that in a few cases there was cooperation between employees and the inspector for determining and covering contribution evasion.

Most of the interviewees confirmed that there is inadequate information-sharing between the JSSC and other governmental bodies, such as the tax office and the minister of trade and industry. And, it is also necessary to have a better mechanism for chasing up those employers who do not pay.

Regarding ESC, it was difficult to discuss these issues with the interviewees. Most of them (7/10) (5 small construction firms and 2 medium service and manufacturing firms) who had been identified evading, mentioned the fact that they had to pay a penalty but did not suffer any kind of social condemnation. They confirmed that, putting their firm's

professional reputation at risk and feeling guilty as a result of evading wouldn't be a powerful social or moral variable leading to more contribution compliance.

Theoretically, contributors need to comply because they want the approval of others. Also they want to avoid the social stigma that could follow those that have been detected evading making contributions. Many people who have small firms or work as a self-employed person confirmed that being detected evading was not a surprise. Such as the owner of a small construction company, said:

I suspect that social security will also target specific groups because people who work on building sites are more likely to be fiddling'.

However, when the same person was asked how easy it would be for him to cheat, he mentioned that there were opportunities for him to do so, and would not be very difficult to do so.

8.6 The Employees of the JSSC Interviews

Seven interviews were conducted with employees in the JSSC. All the interviewees agreed that there might be a serious evasion problem which threatened the sustainability of the scheme. But at the same time they indicated that things have improved. In an interview with an Inspection Manager, the interviewee stated:

'Without doubt, things are getting better because in the last few years we've increased the number of Inspectors. We've supervised them better and provided them with good training and a good institutional infrastructure. In addition, we've brought about some improvements in our operation, such as the automation of tasks, which has increased steadily over the last five years. Actually, I'm very positive that we're doing much better than before'.

In an interview with the Auditing Manager, he affirmed:

'We've concluded many things from the recent actuarial study, such as an urgent need to reevaluate the condition of early retirement pension. It was a good evaluation for our scheme and our corporation's ability to perform. It directed our attention towards the problems that we have in the scheme. For example, regarding the evasion problem, actually, we have to pay more attention towards these problems because they might influence the sustainability of the scheme in the future'.

The interviewees confirmed that contribution evasion is more frequent in small firms (construction, service, hotel and transportation) and with people who are self-employed. They believed these groups of people have better opportunities to evade as a result of a lower probability of being monitored.

Regarding the interviewees' attitude towards contribution evasion, they thought that some of the people who work in their own business and some other firms, still tried hard to

identify any opportunity they might have to decrease social security contributions because of an ingrained mentality and culture. But they agreed that, not all firms have similar standards. Interviewees confirmed that the majority of the firms would like to pay contributions honestly. Sometimes there are instances where firms want to contribute, but are discouraged by JSSC employees. However, they stated that it would be incorrect to lay all the blame on one factor. One of the Inspectors emphasised that:

'The intention of the evaders was to evaluate ways to reduce their contributions with the lowest probability of auditing and punishment. Also some of these firms whose know-how in evading contributions was high, tended to talk, exchange experiences, and receive advice from colleagues and sometimes from JSSC employees themselves'.

According to the interviewees, the main issue associated with contribution evasion problem was the mentality of evader firms towards the JSSS. They believed that the scheme was not very effective and needed to be reformed (e.g Reforming the terms and condition of early retirement). In addition, they believed it was important to work on such issues as poor administrative performance, ineffective contribution collection system, and the easy availability of opportunities to evade taxes.

The Financial Manager and Inspection Manager claimed that:

There are some weaknesses in aspects of our scheme and our corporation's overall capabilities. But this doesn't confirm that the problem is only there.

Actually, we personally believe that it is an attitudinal and a cultural problem more than any one other thing'.

Most of the interviewees (5/7) agreed that, the current scheme adds to the contribution evasion problem. They stated that, the scheme has at least four deficiencies which make it ineffective and inequitable. The scheme suffers from (1) unequal legal benefit provision¹⁹ which makes it easy for firms to manipulate salary statements to their own benefit. In addition, the scheme has a number of overgenerous qualifying conditions²⁰ (2) The non-protection of serious risks (for example unemployment Insurance and Health Care insurance) (3) It has a low area of actual coverage as only around 1/2 of the labour force was covered by the Scheme (4) There was a lack of linkage between pensions and the inflation rate which influences the real monetary value of these pensions.

Some of the interviewees proposed that, SSCE may be reduced by adjusting the formula used to calculate social security retirement benefits. They mentioned that, the effective net payroll contribution facing workers can be reduced by linking benefit payments to the individual's contributions. During the interview with the Financial Manager, he agreed that:

'There are a lot of inconsistencies and distortions in the SSS structure and these needs to be resolved. Personally, I believe that this can be done. We are working

¹⁹ Social security benefits are based on a worker's earnings over only a few years, such as the two years preceding retirement. This method of calculating benefits provides no incentive for the accurate payment of contributions on a worker's earnings in earlier years. Employers and employees may collude in underreporting employee earnings for purposes of social security contributions for younger employees and over reporting for older employees.

²⁰ For example, early retirement pensions (45 years) are granted without any sound actuarial reduction in respect of normal pension.

in that direction. We are responding. We are reviewing the scheme rules and regulatory structure. The benefits package is definitely not very good. But then, the JSSC cannot pay more because the current benefits package is a result of a weak level of contributions from Jordanian employees' salaries.'

In another interview with the Administrative Manager, he reported that:

'There is a realisation in the Corporation that reform should be carried out. There is a mechanism for changing many aspects of the scheme. In addition, the overall scheme needs to be reformed and we are most likely going to do that in the near future. The changes we are now introducing will improve the situation. In the modified scheme we will provide more audits of a return and will amend different aspects of the scheme, particularly the early retirement requirements. Furthermore, the environment of hostility that exists between firms and social security inspectors will improve. Certainly, the reform of the scheme will bring about changes in social security laws and rules'.

More than half of the interviewees (4/7) believed that EF is an important driver for contribution evasion behaviour. They agreed that, penalties should be higher in order to make firms afraid of being punished if they are detected evading. Furthermore, they confirmed that, contribution rates are fair related to the range of programmes that they finance now and that the rate should be re-evaluated to secure the sustainability of the scheme in the future as well as to improve the benefits package, if possible.

In addition, they agreed that auditing procedures should be improved by setting risk-based auditing plans, and they are working towards this. All of the interviewees considered high unemployment rates in Jordan as an important factor in determining contribution evasion problem. Both Inspectors confirmed that:

' It seems that higher unemployment rates reduce non-compliance firms' worries of employees complaining to the authorities because employees fear losing their jobs and it is harder looking for other jobs in light of a high unemployment rate'.

Nearly half of the interviewees (3/7) deny that a high cost to firms of employing their own accountants to calculate their employees' contributions could result in contribution evasion. This is because it was not difficult for them to comply even without accountants as long as the compliance procedures were easy implemented.

They also agreed that, sometimes employers have an incentive not to contribute in order to reduce labour costs because they are paying contributions on behalf of their employees. They also agreed that financial hardship could drive some firms not to pay their contributions due to other priorities at the time contributions are due.

All the interviewees declared that the corporation's efficiency needs to be improved by enhancing its operations, institutional controls and accountability. They think that contribution evasion behaviour may be changed by building a better public image, in addition to the financial incentives of the scheme. They believed that the corporation has

to keep going, however, as things cannot be changed overnight. In an interview with the Administrative Manager, the interviewee was certain that:

'We are spending too little on education. We need to spend much more on public education and awareness. We need to change our image. Yes actually, the corporation is improving. Maybe slowly, but it is improving. I think public awareness is bringing about that change. The corporation has a definite role in awareness building with more concentration on the potential benefits of the scheme'.

All the interviewees agreed that, the corporation is not free from corruption, but in fact it behaved responsibly as corruption is not systemic but sometimes it happens as a matter of individual's behaviour. They emphasised that inspectors are becoming more highly trained, professional, courteous and qualified and they are moved around periodically in order to minimise the opportunity of collusion. In an interview with the Auditing Manager, he confirmed that:

'We admit that some employees might have taken bribes. Because some of them work alone in the field, it may be difficult to supervise them. A supervisory agency is needed to be responsible for their honesty. Actually, we discovered a few employees were corrupt. We have definitely punished them'.

All the interviewees confirmed that, there is a lack of coordination between the JSSC and other governmental bodies. Some of the interviewees proposed that the implementation

cross-check system among different government bodies and the use of the national social insurance identification number will provide greater potential co-operation between these agencies. The Information Technology Manager agreed that:

"Cross-check systems and information sharing could be the solution for many problems we face, such as contribution evasion. Some say that is expensive, but it wouldn't be in the long run. A higher level of computerisation is required. The corporation's management believes that modernisation of our activities will bring about a lot of changes. I believe that using social insurance identification numbers will facilitate record-keeping and the cross-checking of contributor information from different sources will lead to a dramatic reduction in the level of contribution evasion.

Generally, the use of technology was felt by the interviewees to be instrumental in reducing errors, increasing speed, providing adequate and accurate information and facilitating greater co-operation between different formal institutions.

Most of the interviewees (5/7) were less convinced that current ethical and social responsibility had a positive influence to play in contribution compliance. The Financial Manager said that:

'Currently, I don't think social disapproval and moral considerations constrain social security evasion behaviour. Feelings of shame and guilt are not

determinants of contribution evasion. Therefore, changing attitudes is very important. We need a social change to occur. I know the situation can't be changed overnight. It's a gradual process. That is my belief. We collect contributions to allow the JSSC to work properly because the corporation has huge expenses to meet'.

All the interviewees agreed that, their bureaucratic culture also needs to be changed. The corrective procedure can be started and moved ahead effectively if bureaucratic culture is modified first. In addition, they revealed that contributors have a lack of ethics regarding social security contributions evasion and this should motivate the JSSC to play an essential role to overcome that, for example, transparent, fair procedures and honest inspectors.

8.7 Summary

This chapter presents the results of the qualitative method used in this dissertation (semi-structured interviews) conducted with ten representatives of non-compliance firms and seven employees in the JSSC.

The main purpose of conducting these interviews was to identify the key factors in SSCE from the perspective of both groups. These factors reflected the interviewees' attitudes and their involvement in the process of contribution evasion.

Many of the key determinants of contribution evasion were identified by the interviewees. All the interviewees agreed that CE is common but it is a decreasing problem as a result of the improvement in corporation efficiency and in increasing the awareness level among firms towards scheme benefits. This result is supported by the results of descriptive analysis (chapter 6 section 6.3.1) as well as with the literature review that mentioned previously in chapter 1 (section 1.2).

Evasion is more frequent among small firms (construction, hotel and transportation) and self-employed workers because of the low probability of auditing, and it is financially and socially accepted. Moreover, the incidence of such transactions among colleagues is higher. This result is consistent with many other studies results that were previously mentioned in literature review chapter (see e.g. Roth *et al.* 1989; Stalans *et al.*, 1991; Hasseldine and Bebbington, 1991, Johnson *et al.* 1999, Houston and Tran 2001 and Gërxhani 2002).

They added that, the contribution evasion problem was also due to the fragile design and structure of the contributory SSS, followed by EF and a lack of CME. The interviews' findings indicated that, current ESC had no real influence in contribution compliance. This result supported by the regression results and descriptive analysis findings.

Additionally, the interviews lead us to conclude that there was a lack of connection between contributions and benefits and the scheme contains some design features which encourage evasion. Therefore, interviewees stressed the importance of reforming the design and structure of the SSS.

Regarding the EF, all the interviewees believed that, a higher probability of detection and penalty will reduce contribution evasion. The interviewees of evader firms indicated that contribution rates are too high and should be reduced. More than half of the interviewees agreed that, high unemployment rates are an important EF in determining a contribution evasion problem. They also agreed that, employers have the incentive to evade in order reducing labour costs and the threat of financial hardship could drive some firms to evade as a result of the priorities of these firms set at the time contributions are due.

All of the interviewees thought that the corporation's role is very important and it should be encouraged to develop its operations. The interviewees emphasized the role of the corporation in influencing the mentality and the attitudes of firms' evaders in a constructive way. Most of the interviewees claimed that, there is inadequate and inaccurate information provided by the JSSC. They also reported that, there is no efficient information sharing system between the corporation and other governmental bodies and it is necessary to have a better system for following-up the evaders.

In addition to the factors mentioned above, there is one more result to be addressed regarding JSSC interviewees. They considered the non-compliance employers' mentality as an important source of contribution evasion and the corporation can play an essential role in changing their mentality by building a better public image and changing its bureaucratic culture in addition to the financial incentives of the scheme.

Actually, the above results of the semi-structured interview chapter that were conducted above support the results of statistical findings of the survey data that was presented in this research. Additionally, the literature review identifies these factors mentioned above in determining taxpayer's evasive behaviour. Thus, the surrounding literature confirmed of the interview chapter result of this research.

CHAPTER NINE

SUMMARY AND CONCLUSIONS

9.1 Introduction

The main aim of this thesis is to conduct an empirical analysis into the problem of JSSCE, so as to understand and explain the key determinants of the problem at the firm level given the lack of previous studies in this area.

The results from the analysis of related literature of tax evasion, and in particular the literature of SSCE, the survey questionnaire and the interviews have been supported to provide very important theoretical and empirical conclusions regarding JSSCE which will be addressed in this chapter. Additionally, the questionnaire and the interview methods have been designed to elucidate detailed strategy alternatives available to the JSSC in order to create suggestions for appropriate policy propositions and study recommendations for policy makers. This will be dealt with at length later in this chapter.

This chapter falls in five discrete sections: section 9.1 is the introduction. Section 9.2 provides a conclusion to the discussion concerning the previous literature on the effects of multi-factors that determine SSCE. Section 9.3 presents a summary of the main empirical findings of this research. Section 9.4 proposes alternative strategies to reduce JSSCE. Finally, section 9.5 provides limitations and recommendations for future research directions.

9.2 Theoretical Conclusions

The literature review in this thesis fell into two key areas of study. The first area examined the extent to which EUT concentrates on traditional economic variables (such as audits, penalties and contribution rates) and how they have influenced firms' decisions in their choice of whether to evade social security contributions or not. (Allingham and Sandmo's model (1972) based on the EUT explains taxpayer behavior as the result of a rational calculus, where taxpayers are ready to carry out an action based on the potential risk factors associated intention to avoid paying tax. They state that taxpayers balance opportunity cost in the attempt to maximise income against the likelihood of being found out and what sanctions or punishments would be applied in their particular cases (Sandmo, 2004).

The Basic Economic Model on which their conclusions are built presumes that tax evasion is risky and also that the taxpayers are naturally risk averse. They considered it likely that a relatively simple static model that presumes taxpayers' decisions depend on monetary income alone. The model proposes that the extent of tax evasion depends solely on the dual factors risk of being caught added to the size of the penalty.

Other studies support the idea that the tax rate, the audit probability, and the fine rate are key variables in determining tax evasion behaviour (Blackwell 2002; Alm, et al, 2004; Hasseldine et al, 2007; Kumarasingam 2010), but, it is clear from the research and other related sources studied for this project that there are substantial limitations in the ability

of this model to explain major aspects of tax evasion behaviour (Elffers, 1991). Moreover, the most important problem with EUT analysis of tax evasion is that it considerably over-predicts the size of tax evasion (Dhami and Nowaihi, 2006). These findings diverted researchers' attention significantly, allowing them to inaccurately extend the traditional focus of EUT and to suggest that evasion behaviour must be influenced by other variables more than that reported by the Basic Economic Model, in fact when this is not actually the case.

As the first area of studies extended Basic Economic Model by incorporating new economic variables into a more sophisticated EUT, it led to an improvement of the predictive power of the Basic Economic Model. The extended economic models incorporated the amount of current consumption need, labour cost reduction, firms' financial hardship, and the unemployment rate, as key variables which could lead employers to attempt to evade the payment of social security contributions (Yaniv, (1994; McGillivray, 2001; Ritsema et al 2003 and Strban 2007). It is evident; therefore, that tax evasion is a multidimensional problem: taxpayers' behaviour can be influenced by a number of factors. Deterrence and economic forces are not the only causes that seem to shape the nature and level of tax evasion.

A second area of studies was started in order to test the importance of rival theories to EUT (e.g., GT) and to analyse a number of related but non-economic factors with the intention to integrate them in formal models of tax evasion decision-making.

Many researchers are of the opinion that a tax authority is more interested than taxpayers in carrying out its operations in a coherent way that aims to maximise its performance (Alm, 1999). As a result of this, GT concepts permit a tax authority to modify their audit and enforcement strategies regarding the information present in a taxpayer's report. This means a tax authority becomes a key element of the model. GT is a prescribed form in an interactive situation where a tax authority is able to identify those taking part, what their preferences are, their personal information, the choices of strategy they are able to make, and how these factors might sway the outcome (Chris Georges, 2009).

Incorporating a tax authority into a GT analysis of tax evasion allows a greater opportunity for insights and predictions that are not possible in the Basic Economic Model of law enforcement. Taking into consideration the effects of both sides (the tax agency and the taxpayers) of the tax evasion problem, these often mean different conclusions than would come out from looking only at the taxpayer side of the evasion equation.

In addition to this, it is evident that current economic models have added many non-economic factors with regard to taxpayers' compliance decision behaviour. These factors have been studied in the fields of sociology, psychology, management, and law and can be easily reached by the inclusion of formal and informal institutions (Formal institutions include: tax authorities, laws, and rules, while informal institutions include norms of behaviour and established conventions for the purpose of evaluating what factors determine tax evasion.

This study aims to introduce an institutional analysis of tax evasion. It aims specifically to emphasise the role of tax authority has in influencing evasion literature. It is vital to integrate the tax authority as a central figure in strategies that involve GT. As long as tax authorities influence behaviour toward tax evasion and the implementation of the social security law, this must always be a key factor. The inclusion of institutionally induced variables is decisive in the understanding of SSCE as a pointer to the effectiveness of the evaluation of how effective the JSSC is. It must be a marker which not only gauges the apparent integrity and even-handedness of the JSSC, but also must show how taxpayers understand help and information they receive from the JSSC. In support of this, McGillivray (2001) states that 'A lot of attention is paid to the design, structure and administration performance of contributory social security schemes. However, unless an administrative operation is well implemented, all other aspects of the scheme are irrelevant'.

However, one of the main problems of many countries, especially developing countries in this field, is the limited capacity of social security bodies in their ability to collect social security contributions. Thus, many countries are confronted with the challenge of reforming their SSS and the consequent administration. The likelihood of evasion could be decreased by more proactive behaviour undertaken by the tax authority towards groups of taxpayers and towards individuals. In short, high degrees of evasion can be seen by some experts as a result of the low public credibility of SSSs and reflect the quality of the scheme's organisation and the efficiency of its administration.

Additionally, the intention of this study is to act as evidence for the importance of the Legal and Regulatory Structure (LRS) and to explore related areas such as tax complexity in their position as key players in tax evasion. By simplifying tax law and its regulations, taxpayers would be able to reduce their cost in time and money and conform more correctly to the relevant tax laws (Blumenthal and Slemrod 1992).

Tyler, 1997 and Alm et al, 1999 argue that understanding people's requirements during a legal procedure and how tax law and regulations are implemented helps explain why people are unhappy with the process of that law, and how it points towards a solution for building public trust in such matters. Tax compliance can be influenced by equity considerations as part of the input-output relationship and so the link between tax payment and the advantages provided by taxation bodies and government administration are highly important. It becomes clear, therefore, that an insufficiency in the efficiency of SS provision may well increase the incentive for people to cheat, making it more acceptable and easier to carry out (Strban, 2007). It is for these reasons that many researchers find some provisions of SSPS can enhance tax evasion. For example, the scheme may have been open to strategic manipulation by workers who were able to reorganise their employment to take better advantage of their expected pensions and minimise their contributions, which are reflected in high rates of tax evasion (see, McGillivray, 2001).

This study has aimed its focus particularly at the area of social influence and ethical considerations of tax evasion (Elster; 1989, Paldam 2000, Murphy; 2004 and Torgler and

Schneider; 2007). Researchers in psychology and sociology emphasise the importance of the socialisation process in its ability to affect behaviour. There are two leading psychological theories that explain how the socialisation process works with respect to compliance behaviour. These are cognitive and social learning (see chapter 3). This study argues that a social influence ostensibly plays a significant role in the creation of everyday social intercourse and exchange.

Researchers have criticised the Basic Economic Model on the basis that there are a number of evasive decisions and enforcement policies that cannot be studied effectively within its parameters. Therefore, economists have incorporated the ideas of social influence and moral taxpayers to improve the strength of the model. This new economic assumption of the interdependence of taxpayers has been added to Basic Economic Model by examples such as perceptions of inequity, and feelings of guilt and shame, as additional costs of tax evasion to improve the model's predictability. These suggestions aim to enhance the understanding of taxpayers' decisions behaviour and their ability to better develop tax enforcement strategy.

As a consequence, there are a greater number of economic models that have taken onboard a social agenda by extending the assumptions of the Basic Economic Model to incorporate taxpayers' moral values and the role of their social environment. Research suggests that adding the element of tax-related ethics to models of tax compliance is, at present, a largely underdeveloped field of study which can, arguably, help to explain low levels of tax evasion (Andreoni, et al, 1998).

In conclusion, the principal summary findings of the previous studies discussed in chapter three suggest tax evasion cannot be explained wholly by tax administration deterrence policies and financial incentives, and that therefore, taxpayers' evasion behaviour must be influenced by other factors more than that has been reported by the Basic Economic Model. It is very important to integrate the role of NEF in the Basic Economic Model of tax evasion. The argument advanced is that these groups of NEF, (CME, LRS and ESC) considerably affect and, indeed, determine the SSCE problem. So, an effective administration and regulatory procedure, along with, social and ethical factors are all important whatever the country, but particularly so in developing countries.

9.3 Empirical conclusion

The first step of this study's empirical analysis was focused on the descriptive study of respondents' attitudes to the extent of contribution evasion (see Chapter 6). From their responses, it can be objectively concluded that the majority of respondents felt SSCE is a common, but decreasing problem in Jordan.

Participants demonstrated negative opinions towards the efficiency of JSSC's audit program and penalty structure. In addition, the research demonstrated that the most important economic variables that caused an employer to report contribution evasion are the high levels of unemployment within the country, the likelihood of an employer attempting to minimise labour costs, and the presence of financial hardship at the time contributions were due.

Generally, survey findings suggest that there is moderate satisfaction with JSSC's performance across the firms approached for this study. The problems highlighted, appear to stem from the lack of quality of information provided by JSSC, as well as the way in which the corporation treats firms, the relative satisfaction in the way that the administration handles its corporate affairs, and the lack of coordination between the corporation and outside parties. In addition, some firms believe there are real opportunities to collude with JSSC inspectors.

The result also show that limited JSS provision and a lack of linkage between JSSS contributions and benefits ranked as the most important variables within LRS. In addition, the absence of a firm's sense of duty and variable levels of morality towards JSSCE policy were considered as the most important reasons for the problem of contribution evasion within ESC. The respondents' results indicating that the former firm behaviour was unethical and socially irresponsible towards the problem of SSCE in Jordan.

In order to investigate possible reasons for contribution evasion in depth, this thesis has employed quantitative and qualitative methodologies to gather information so as to carry out the research objectives. A quantitative approach was maintained by use of multiple regression analysis survey data, while the qualitative approach adhered to semi-structured interviews.

Chapters seven and eight followed an empirical methodology and is devoted to the

analysis and interpretation of the results achieved from the multiple regression analysis and semi-structured interviews. Both instruments were used to examine the relationship between the four explanatory factors and the contribution evasion of 229 Jordanian firms drawn from the JSSC inspection department's records.

Two fundamental hypotheses were also set up in chapter four and tested in chapter seven, by a series of regression analyses to analyse the collected data. The analysis of the sample was undertaken at two levels: aggregated (the base regression model) and disaggregated levels (the supplementary regression model).

At the aggregate level (the base regression model); the analysis undertook the examination of the collective relationship between the independent factors and the JSSCE for the full sample (the first fundamental hypothesis). The results of the regression model for the full sample of firms are indicated highly significant relationship, being at the 0.01 significance level. They have the power to explain 73.3 % ($R^2 = 0.733$) of the variation in the contribution evasion. Thus, approximately 0.73 of the variance in the dependent variable can be explained by the four factors adopted for the model. The results show that the first fundamental hypothesis is supportable and therefore consistent with the assumptions of the researcher as to the bases of the general factors that make up contribution evasion.

A further standardised coefficient (Beta) was performed to investigate the individual contribution of each of the independent factors in explaining contribution evasion. This

was so as to examine whether each factor alone was able to predict an outcome allowing for the other variables to be controlled.

The regression model identified the EF, CME, LRS, and ESC, to be positively and significantly associated with the JSSCE problem. However, among these factors, the LRS were found to be the most powerful explanatory variable, where the beta coefficient was 0.361 at the 1% significant level. The EF was established as being the second most important factor. This was directly followed by CME and ESC factors with betas equalling .347, .208 and .176 at the 1% significance level respectively. For that reason, it is fair to assert that each of these factors is a key determinant in the understanding of the contribution evasion problem.

Based on the results obtained from the research methodology chapter (section 4.4.1), four sub-hypotheses were developed to obtain a better understanding of the relationships between the SSCE and the independent factors. The hypotheses were tested together with the 'T-coefficient' which indicates whether or not independent sub-factors contribute significantly variation in the dependent variable at a chosen significance level. Therefore, the relationships between independent factors and the contribution evasion are investigated separately using multiple regression analysis to examine the first, second, third and fourth alternative hypotheses of the aggregated stage:

H1: There is a significant relationship between contribution evasion and the assessment of the Jordanian Social Security Law and its consequent regulations

H2: There is a significant relationship between economic factors and the contribution evasion problem.

H3: There is a significant relationship between firms' satisfaction with the Corporation management effectiveness and contribution evasion

H4: There is a significant relationship between social influence, moral considerations and contribution evasion

The result of the regression analysis provides evidence consistent with H1, H2, H3 and H4 at the 1% level of significance. Thus, it can be concluded that LRS, EF and CME show significant and considerable effects on the contribution evasion. The ESC is supported, but its coefficient was lower than other factors and thus gives less explanatory power to the determinant of JSSTE. This conclusion is also supported by the results of the interviews.

Due to the fact that the purposive factors include a number of sub-factors; the study's results provide evidence on the influence of these sub-factors that shape contribution evasion.

Regarding the economic sub-factors, it was observed that the higher the contribution rate, the larger the relative size of the contribution evasion. The coefficient for high unemployment rates was found to be positive and highly significant with a t-coefficient of 3.123, which ostensibly means empirical results confirm the likelihood of being detected as a non-compliant firm is mainly the result of labour market conditions. The research data indicates a positive and significant coefficient rating regarding the influence

of a firm's ability to employ their own accountants for Jordanian firm evasion behaviour ($t = 1.858$). The results suggest that there are a higher proportion of evading firms amongst smaller businesses (66.82%). The reason for this may arguably be that they have relatively small numbers of employees and a limited budget.

Regarding the coefficient correlation between the CME sub-factors and the contribution evasion, there was a negative coefficient relationship ($t = - 3.308$ and $- 2.009$ respectively) at the 0.05 significance levels between the impact upon the ways the JSSC handles its affairs and whether the implementation of the compliance procedures by the corporation is complicated by the contribution evasion. Generally, these results are consistent with the result of McGillivray (2001) in the sense that more attention should be paid to the organisational management of SSS, its performance and its administrative operation.

In addition, the approachability of corporation employees and the extent to which laws and rules are equally enforced by the corporation's association with the contribution evasion are negative and significant ($t = -2.341$ and -3.461 respectively) at a 0.05 significance level. Generally, the previous results confirm that fairness and honesty have a significant positive effect on tax compliance behaviour (Feld and Frey 2002). The result revealed that lack of knowledge and information provided by the corporation has a negative impact on the contribution evasion with significant positive correlation ($t = 2.156$) at the 0.05 significance level.

The association between the corporation's efficient use of a computerised system and the contribution evasion is positive and significant ($t = 8.004$) at the .01 significant level. These findings are comparable to that obtained by (Masselli et al, 2000) who found that a lack of an efficient computerised tax system was likely to increase the level of tax evasion.

Furthermore, a significant strong positive correlation was discovered between the lack of coordination between the corporation and other governmental bodies and the contribution evasion ($t = 2.165$, $\text{Sig} = .031$). This result is consistent with the result of Alm et al (1996) who found that information sharing between SSS and other official agencies could reduce the level of contribution evasion problem.

Furthermore, the data analysis revealed three positive significant relationships among LRS sub-factors and contribution evasion at the .05 significance levels. There is also the concern that there is a lack of linkage between JSSS contribution and benefits and that limited SS provision is arguably one of the main reasons for contribution evasion. The results are highly positive and significantly related to the contribution evasion problem ($t = 4.763, 3.242$) respectively. Additionally, the statement that the JSSS contains some design features which encourage contribution evasion is found to be positive and significantly related to the evasion problem, (2.938). These findings are comparable to that obtained by (Smith 1992; Pommerehne et al, 1994, Peter and van Dijke, 2007)

With regard to the influences of ESC upon the decision of firm to evade or not, feelings of shame and guilt in the regression analysis revealed positive and significant coefficient correlations with contribution evasion ($t = 4.206$, $\text{Sig} = .000$). This means that the research sample shows a lack of shame and guilt regarding contribution behaviour. Actually, this corresponds with the results of descriptive analysis and interviews where the respondents showed that contribution evasion does not necessarily generate anxiety and guilt towards contribution evasion behaviour. Additionally, the regression model indicates the absence of influence of the evasion problem on the firm's professional reputation with a positive significant correlation ($t = 1.702$) at the 0.10 significance level. This finding is inconsistent with the finding that obtained by Sigala (2000) who found that British sole traders in their professional jobs avoid tax evasion because they believe that such actions put their professional reputation at risk.

Furthermore, the regression result indicates a positive and significant correlation between the respondent's morality and the contribution evasion ($t = 2.764$, $\text{Sig} = .006$). The results confirmed that evading Jordanian firms behave consistently in what could be considered an immoral way towards the paying of contribution to the JSSS. The finding for this variable is consistent with prior studies' results (Schneider and Enste 2000; Gërxhani, 2004; Frey and Torgler 2007). All of these studies support the idea that if a high level of tax immorality is reported by group of firms, more evasion is anticipated by these firms.

At the disaggregated stage (supplementary regression model), this part of multiple regression analysis aims to examine the influence of company characteristics on the

relationship between the independent research factors and the dependent variable (second fundamental hypothesis). The analysis was conducted with sub-samples at three levels: (1) Firm based on industry type. (2) Firm ownership. (3) Firm size classified according to number of employees (see chapter seven). The results show that these models are all significant at the 0.01 significance levels. As a result, the second fundamental hypothesis is supported.

At the industry level, the regression model for each industry group proved that the LRS, CME and EF are the most significant factors in explaining variation in the JSSCE across almost each sector. The results for construction firms show that both LRS and CME factors have the strongest positive relationship upon the contribution evasion (.426 and .268 respectively).

Additionally, the results confirm the importance of the LRS and CME factors in services and other sector categories as well as confirming the importance of the EF in services, industrial and other sectors ranging from .307 to .447. For the ESC, its coefficient was extremely low low—even insignificant in the service, industrial and other sector categories, at .05 levels. But there was notable significance for the construction and industrial sectors at .01 with (Sig = .000 and .062) respectively.

The first sub-hypothesis of the disaggregated stage, in their alternate form, made the following conclusions:

H5: There are no statistical differences in the level of importance placed on the ranking of independent factors among a firm's occupational sector with respect to the contribution evasion problem. The hypothesis was confirmed significantly, except that the hypothesis regarding ESC is not fully supported by the multiple regression results.

In the supplementary regression model of firm ownership, LRS and EF remain the most important determinants of JSSCE as in the base regression model, and their regression coefficient is relatively stable across limited partnership and limited partnership in share. Whereas the CME factor has a low coefficient and insignificant contribution to the determinant of contribution evasion for limited partnership in share (.062, sig = .528) and has a reasonably stable regression coefficient among limited partnership, limited liability ranges from .304 to .536 at the .05 significance level.

The significance of the regression coefficients of ESC for firms' ownership classification, is such that the results are found to be less of a contribution to the determinant of contribution evasion than the other factors used for limited partnership, having a significant positive coefficient of 0.156 at 5% level of confidence. Whereas the regression results show that there is a strong positive relationship between ESC factors and the contribution evasion in limited liability firms with 0.210 at a 5% level of confidence

The second sub-hypothesis of the disaggregated stage, in their alternate form, made the following conclusions:

H6: There are no statistical differences in the level of importance placed on the ranking of independent factors among a firm's ownership with respect to the contribution evasion problem.

The supplementary regression results show higher coefficients of EF and LRS to contribution evasion obtained in limited partnership firms, which is the same result as with the base regression model. This relationship is though, not found in limited liability firms. The regression results do show though, that there is a strong positive relationship between the CME and the ESC factors and the contribution evasion in limited liability firms. Therefore, the hypothesis was mostly supported by the multiple regression results as explained above.

Concerning the firm size sub-sample, there were no significant differences between the sub-samples based on small firms and the base regression model. LRS and EF continue to have higher positive coefficients and significance followed by the JSSC performance factor. The ESC factor, however, has a lower positive coefficient, and is significant at the 5% level ($\text{Beta} = 147$). The results correlated from medium-sized firms indicated that economic, ethical and social factors are considered to be the most important determinants to the JSSTE problem. In this study, however, the results revealed larger ESC coefficients and significance in the large size firm group, followed by the EF. This is indicated by the positive and significant relationship found in large firms between these factors, and with JSSTE at just 1%. The respect of rules and the importance of one's own reputation were more of a concern.

The third sub-hypothesis of the disaggregated stage, in their alternate form, made the following conclusions:

H7: There are no statistical differences in the levels of importance placed on the ranking of independent factors among firms' size with respect to the contribution evasion problem.

This regression result seems to convincingly support the sub-hypothesis mentioned above in the case of small firms. The sub-hypothesis, however, was not fully supported in the case of medium-sized firms, as the results indicate a partial inconsistency with the base regression model. In contrast, the large-sized firm category which represents only a small percentage (5.24% of sub-samples) of firms confirmed some significant differences with the base regression model.

To summarise, the research data confirmed an agreement with the predictive assumptions of the model. Research results has have found strong evidence that the four factors significantly influence contribution evasion in Jordan. In all cases, the coefficient was significant, controlling for a variety of factors.

The semi-structured interviews were conducted with the representatives of former evading firms and employees at different levels in the JSSC were analysed to support the results of the quantitative research. The findings from the interviews identified the same

key factors of the JSSCE from the perspective of both groups. These factors reflected the interviewees' attitudes and their involvement in the process of contribution evasion.

All the interviewees agreed that contribution evasion is common in Jordan, but is a decreasing phenomenon as a result of the improvement in the corporate efficiency and increasing awareness level among Jordanian firms. It has a higher prevalence among small firms (construction, hotel and transportation) and self-employed workers because of the low probability of auditing, is generally financially and socially accepted and the incidence of such transactions among colleagues is higher.

Interviewees referred to the contribution evasion problem as being due to the fragile design and structure of the contributory SSS, followed by economic factors and a lack of administrative efficiency. The interview findings indicated that, ethical and social responsibility had no strong influence in contribution compliance. Additionally, the interviews results lead us to conclude that there was a lack of equity consideration in the scheme and the scheme contains some design features which encourage evasion. Therefore, they stressed the importance of reforming the design and structure of the SSS.

All the interviewees believed that, a higher probability of detection and evaders having to pay a higher penalty, reduce contribution evasion. The interviewees of formerly evading firms indicated that contribution rates are too high and should be reduced. More than half of the interviewees agreed that, high unemployment rates are an important EF in determining the contribution evasion problem. They also agreed that managers and

owners of companies have the motivation to evade in order reducing labour costs. Additionally, the threat of financial hardship might be a factor in making some firms evade as a result of the priorities of these firms set at the time contributions are due.

All of the interviewees thought that the corporation's role is very important and it should encourage the development of its operations. Most of the interviewees claimed that there is inadequate and inaccurate information provided by the JSSC. They also reported that there is no efficient information sharing between the Corporation and other governmental bodies and it is necessary to have a better system for following-up the evaders.

Apart from the information considered above, there is another factor that needs to be considered with regard to the JSSC interviewees. They deemed employers' ways of thinking regarding non-compliance as an important source of contribution evasion. The JSSC, they argue, must play a central and vital role in forcing them to change these destructive ways of thinking by helping to bridge the gap between the corporation and the public by putting out a new and better corporate image, and by changing its bureaucratic culture so it is less corrupt, more open and forward thinking and supportive, in addition to the financial incentives of any scheme.

9.4 Strategies to reduce contribution evasion.

9.4. Critical reflections on the work undertaken

CE is a huge problem in Jordan as noted in chapter 1, section 1.2. 25% of the members of the SSS have not paid their social security and tax dues according to their liability. Additionally, the viability of implementing the new extended coverage programme, as

adopted in Aqapa in 2009, is poor. The report from the study found that 36% of firms within the programme failed to pay their JSSC dues. IMF estimates in its report of 2011²¹ noted that the percentage of those employed in the black economy in Jordan is around 26% (where this percentage do not contribute to the retirement pension scheme). Therefore, quite plausibly, contribution evasion is rampant in Jordan.

I chose to engage with this subject and the main reason for undertaking the research is rooted in my own experience as an employee in Social Security Corporation in Jordan since 1988. I am a member of avoiding and evasion contribution committee which has responsibility for advising the managements on matters of contribution evasion and avoiding strategy. I am also currently working as a head of risk management department in JSSC and this problem is one of the critical risk factors which face the sustainability of the Social Security Scheme (SSS). Additionally, my study is fully sponsored and funded by JSSC so it is very important to find some of managerial solution for some of the JSSS and its administration.

As discussed in Chapter four, amalgamations of different methods were employed in this study. This was due to the design of the research so as to improve the quality and the accuracy of information required for conducting this research, as well as to confirm results from the use of different methods. The approach mentioned above is known as ‘triangulation’, defined by Leedy and Ormrod (2001), as ‘...using two or more data source methods within one project so as to help make sure that any data produced by the competing methods are consistent with what is expected.’

²¹ Regional Economic Outlook for the Middle East and Central Asia

Three types of data were employed in the study: interviews, questionnaire, and literature review. Inferences from each data set were assessed with each other to increase the accuracy of the findings. In this way, corroborating evidence to support the study's interpretations was able to be formed. This is important in interpretive research because the research itself is an actual instrument in the research process.

The results from the analysis of the related tax evasion and SSCE literature, the survey questionnaire and the interviews have all supported arguably important findings regarding the research problem. Validity is often increased when it ensures that the research problem is examined through more than one method of investigation. Briefly, regarding triangulation, this occurs when there is a crosscheck on data for internal consistency and external validity. These are vital matters of concern for any study (Yin, 1994; and Saunders *et al.*, 2000).

Additionally, in this study, the sample frame-list was supplemented by interviewing Inspection Departments within the JSSC to supply names, sectors, locations and telephone numbers of firms who have taken part in tax or social security evasion in the past. This kind of process is found to be useful as an initial ice-breaker, allowing an approach to directly deal with members of the guilty firms, and providing a very quick and accurate way of generating a comprehensive sampling frame. There complicity in the crime allowed the circumvention of social resistance that would have occurred if the study had approached companies who might have refused to cooperate if they felt their

position were compromised by the study. The existence of an accurate official list helped greatly in overcoming this potential issue (Marsland *et al*, 1998).

9.5. Contribution to the literature and to theoretical development.

This study makes several theoretical contributions to the theory on contribution evasion. To the researcher's knowledge, this study is the first to be conducted in Jordan and the problem has been investigated from the perspective of former contribution evaders. The aim of this dissertation is to fill this gap by evaluating the nature of contribution evasion at firm level and to develop an understanding of the main reasons why contribution evasion occurs in Jordan. The primary motivation behind this study has been to outline the necessity to make changes to the JSSC. This study has made, arguably, a notable contribution to the advancement of improvements in the tax evasion issue in developing countries, and especially in Jordan.

The current state of the literature informs us that most studies focused on individual taxpayers and particularly on income tax in spite of the major evasion problems in other areas e.g social security contributions. As Sandmo (2004) mentions: "The models surveyed so far all concern evasion by individual taxpayers, while the role of firms has been very much in the background."

The lack of empirical studies on SSCE in many developing countries informs researchers in this field of the notable absence of reliable statistics regarding the cause and extent of

the evasion question. With this in mind, existing evidence from other research should not be relied on heavily to extrapolate conclusions for countries such as Jordan, as this empirical data was gathered mainly in America and Europe, and the consequent social and cultural differences between them are legion. Again, this study attempts to participate in filling in part of this knowledge gap.

In addition, SSCE receives scant attention in the Social Security literature. In general, evasion can be investigated from a variety of perspectives. The major purpose of this thesis is to extend received knowledge on which factors have an impact on Jordanian Social Security contribution evasion (JSSCE) from the former firm evaders perspective. Furthermore, the researcher has been granted accesses to the JSSC archives (library) and the reports published by the JSSC such as Auditing and Inspection Department.

Generally, as mentioned previously, findings, in the review of the literature, have revealed that the Basic Economic Model of Tax Evasion, based on an expected utility maximisation approach, predicts a lower level of tax compliance than that actually scrutinized. As a result, It is rational to think that there are other factors might explain such a lower evasion level. The theoretical model of this study, (the model is explained in detail in Chapter 4) used here to explain the Jordanian Social Security contribution evasion (JSSCE), gives special attention to economic and non-economic factors namely; the impact of Economic Factor (EF), the Corporation Management Effectiveness (CME), the Legal and Regulatory Structure (LRS), and Ethical and Social Considerations (ESC). In both regression models used in this thesis we will consider if Non-Economic Factors

(NEF) are revealed to have any impact compared to EF across the multiple regression analyses.

It was found that, EF remains the next most significant determinant of the contribution evasion in both regression models, but non-economic factors are revealed to have a vitally important impact on the contribution evasion compared to EF across the multiple regressions analyses.

9.4 Strategies to reduce contribution evasion

It is arguably very clear from the findings of this study that the enforcement of frequently audited legal requirements with stringent penalties in itself is insufficient to prevent contributors from evading payment to the JSSC. Thus, based on the researcher experience and the outcomes of the research findings, the study recommends further options both within and beyond frequently mentioned strategies that are asserted to influence for contribution evasion.

□ Giving JSSC the legally enforced right to check employers' records and give them unfettered access to any pertinent information such as employers' bank statements, income tax returns, and other financial documentation, so the number of employees can be ascertained accurately, and that salaries and remunerations match with corporation registration and the records of all contributions paid. Confidentiality should not prevent

the JSSC from doing its statutory role of supporting compliance in SS contribution obligations

□ The JSSC should have an adequate number of trained inspectors who are sufficiently well paid i.e., as well as civil servants in other similar roles, so as to ensure their honesty, and, a demonstrable availability of resources for them to carry out competent inspections so allowing them to strengthen their enforcement policy.

□ The JSSC can educate JSSC employers through educational programmes which involve sufficient, truthful and dependable information to allow them to make more knowledgeable decisions about different facets of JSSS legal requirements.

□ The JSSC should undertake public relations and educational campaigns to promote compliance. JSSS must convince workers through the benefits they provide and the efficiency of their operations, that, despite claims that their operations are untenable, they are dependable suppliers of benefits for insured and retired people. In addition, public perceptions need to be changed to come in line with the idea that noncompliance is unacceptable.

□ The JSSC should make a regular account of workers' data statements that include their contributions and on their behalf so they can prove their contributions and ensure it has been properly remitted and recorded, while at the same time being reminded of the benefit rights they have.

□ The JSSC can enforce compliance indirectly through pragmatic rules which require an employer to be licensed by the JSSS as being of good character before being issued a business licence, to bid on government contracts, or to receive an export licence, for example.

- The JSSC can reform scheme design faults which dampen compliance in order to ameliorate the employers and workers' incentives to contribute. For example, the JSSC can modify requirements which hearten strategic exploitation of contributory periods in order to maximise benefits and minimise contributions.
- The JSSC can coordinate verification and enforcement activities with other collection authorities in order to examine whether employers or workers pay the correct corporate or personal income tax and whether or not they have paid their social correct security contributions. This task of coordination should involve cross-checking income records from various governmental bodies. Therefore, diverse authorities should cooperate together to stabilise Jordanian firms' compliance behaviour.

9.5 Limitations and Recommendations for Further Research

While this study has provided what is essentially valuable insight into the nature and forms of contribution evasion, there are some limitations. These limitations do have a bearing on the implications of the study results.

The first comes from the poor publications of SSCE in general and a lack of contribution evasion statistics, particularly for example, the extent of SSCE practices. Statistics, either in Jordan, or the rest of Middle East and developing counties, were sometimes not found or sometimes were not reliable. This lack of coverage and even lack of transparency is a common factor in the context of the Middle East.

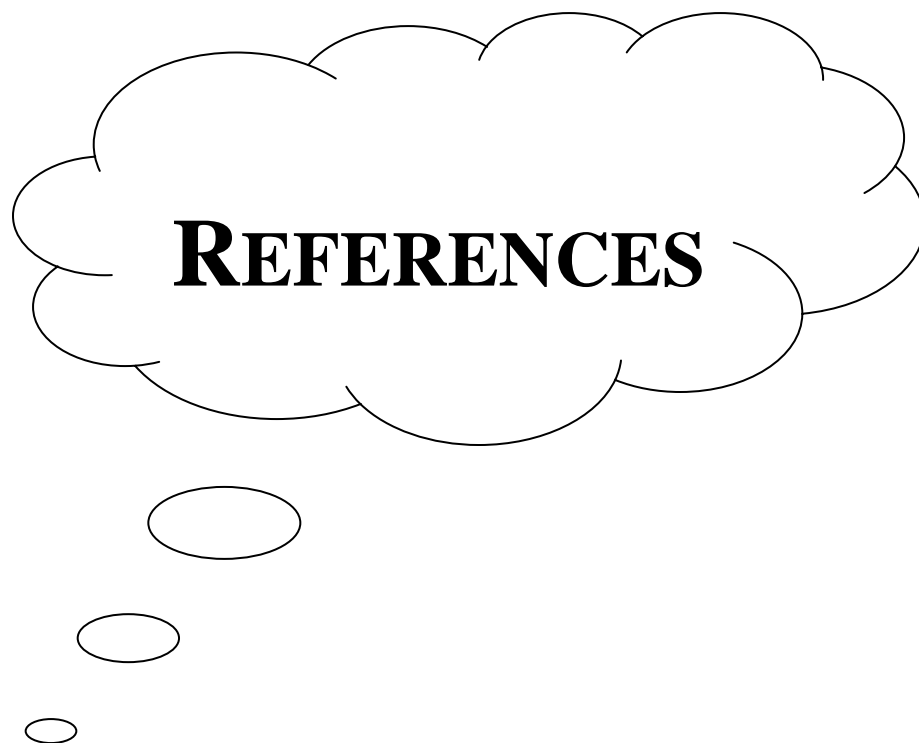
The second limitation was that contribution evasion most often comes about ostensibly because there is a general regional failure to directly observe contribution evasion

behaviour, or that the will to observe it also is lacking. As such, most of the empirical evidence given here, is based on personal self-reports to describe particular evasion behaviour which has been, perhaps unfairly, extrapolated to wider society. Evaders' behaviour could be affected by specific local circumstances, which are difficult to control, and may not necessarily show up in the results of the particular Jordanian firms interviewed here. People, in particular instances that relate to specific locations or cultures that do not extend beyond the target areas, might refuse to answer questions or moderate their views to reduce the possibility that information could be used non-confidentially. Therefore, the difficulty facing researchers is how to encourage participants to respond, and then to provide honest responses that bear up to scrutiny.

The direct result of this research is that there are a number of recommendations that have been posited for future research. First of all, the greatest potential progress for future research on contribution compliance might stem from sophisticated comparisons across occupational sectors, and in different cultures, cities or even nations. A comparative occupational sector analysis among firms is especially important as standard models of taxpayer behaviour do not pay close enough attention to the influence of occupational sectors on tax compliance behaviour. This will help to better understand the role of occupational groups for contribution evasion. Then, there is the opportunity to develop appropriate strategies to combat contribution evasion problems by targeting groups' sensitivity to their transactions with contribution evasion.

Finally, the respondents' results indicate that the behaviour of firms that evaded contribution was unethical and socially irresponsible in many cases. The results of this

research may motivate researchers to do further research concerning this issue and thus contribute more effectively to the adjustment of compliance behaviour towards SS contributions in Jordan in a more socially altruistic way.



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APPENDICES

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Our reference

Your reference

Date

15 July 2006

To whom it may concern

Dear Sir/Madam

On behalf of my PhD student, Bassam Al Subaihi, may I thank you in advance for agreeing to be part of his study on "Contribution Evasion" in Jordan. The main purpose of this study is to collect information and attitudes to develop a fuller understanding of the main determinants of Social Security non-compliance. These issues are very important for the country's economic and social wellbeing.

The study is standard practice in research and will help the researcher to provide possible strategies that can seriously assist the Jordanian Social Security Corporation. We would like to use the benefits of your experience and about 20 minutes of your time!

It is very import that each questionnaire is adequately completed and returned to us. Please respond to each question by placing a tick in only one box that most closely matches your experience and views. This data is confidential, therefore, please feel free to give your honest options.

Any additional comments are much appreciated and if you have any questions, please do not hesitate to ask the researcher at any time.

Yours faithfully

Dr Donald C Finlay
Associate Dean (Postgraduate)

The Questionnaire

Respondent's role in the firm: _____ **Date of Questionnaire:** / /

Questionnaire number: _____

Direct tax includes income tax, surtax, contributions for social security, as well as profit tax and indirect taxes value added tax, excise on tobacco. (The Contribution gap for Social Security Corporation (SSC) is the amount that was not paid by firms on behalf of their Employees). Social Security Contribution Evasion (SSCE) by the firms: It is when firms fail to register some or all of their employees, they hire workers informally rather than as part of the official payroll, they claim workers are contractors rather than employees, or they fail to pay required contributions for their registered employees. Employers also underpay contributions and make late payments.

Section .1. General Assessment of the Jordanian Social Security Scheme (JSSS)

**To what extent do you agree or disagree with the following statements
(please indicate your answer (✓))**

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. The JSSS is quite suitable to the Jordanian economic situation					
b. The current JSSS benefits only firm's owners					
c. The current JSSS benefits only employees					
d. The current JSSS benefits both employers and employees equally					
e. There is a lack of linkage between JSSS contributions and benefits					
f. Limited Social Security provision is one of the main reasons for non-compliance					
g. The JSSS contains some design features which encourage evasion					
h. Social Security Contribution evasion (SSCE) is common and extensive					
i. SSCE is a decreasing problem					

Section 2-Factors and variables which may induce Contribution Evasion (CE)

2.1. Economic factors

Please indicate your agreement or disagreement (✓) with the following statement.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. Social Security Contribution rates are relatively high considering the benefits returned					
b. The probability of being inspected is relatively low					
c. The fines for employers not making statutory contributions are relatively low					
d. Financial hardship of firms result in firms who avoid paying contributions					
e. Firms avoid contributions to minimise labour costs					
f. High unemployment rates prevent employees complaining about firms not paying their contributions					
g. The high cost to firms of employing their own accountants to calculate their employees contributions could result in CE					

2.2. Institutional and legal variables

2.2.1 Administration performance of JSSC

Please indicate your agreement or disagreement (✓) with the following statement.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. The administration handles the JSSC affairs in an appropriate way					
b. There is a lack of coordination between SS Corporation and other government bodies					

c. The JSSC acts as a service institution and treats taxpayers as partners					
d. The JSSC employees are highly trained and professional					
e. The JSSC employees are very approachable.					
f. Different employees from the SSC give different information.					
g. The JSSC has an efficient contribution recording and collection system					
h. Laws and rules are efficient and equally enforced by JSSC					
i. There are easy opportunities to collude with SSC inspectors					
j. The JSSC compliance procedures are complicated					

2.2.2. Law and regulation structure

Please indicate your agreement or disagreement (✓) with the following statement

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. Laws and rules are complicated and are very difficult to understand					
b. The JSSS Law can be manipulated by accountants in a creative way in the firm's own interest					
c. There is no supervisory authority responsible for the honesty of the SSC inspectorate					

2.3. Technological, information and awareness variables.

Please tick on the appropriate box.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. There is a lack of knowledge and information provided by the SSC.					
b. Firms are aware that contribution evasion could cause serious financial problems for the JSSS in the future.					
c. Firms with better knowledge about SSS benefits are more compliant					
d. Firms with better knowledge about JSSS have more opportunities for contribution evasion.					
e. Computerised system used by the SSC are quite efficient					

2.4. Social and moral consideration

From your experience, Please choose the appropriate answer.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
a. CE does not generate anxiety and guilt.					
b. CE does not put a firm's professional reputation at risk					
c. High level of firm sense of duty play a vital role in combating contribution evasion.					
d. Most firms are honest through fear of getting caught					
e. Firms who do evade contributions don't feel their actions are morally wrong.					

Section 3- General information about your firms

1. In which sector do you classify your organisation? _____
2. Which category best describes ownership of your firm?
 - a. Limited Partnership.

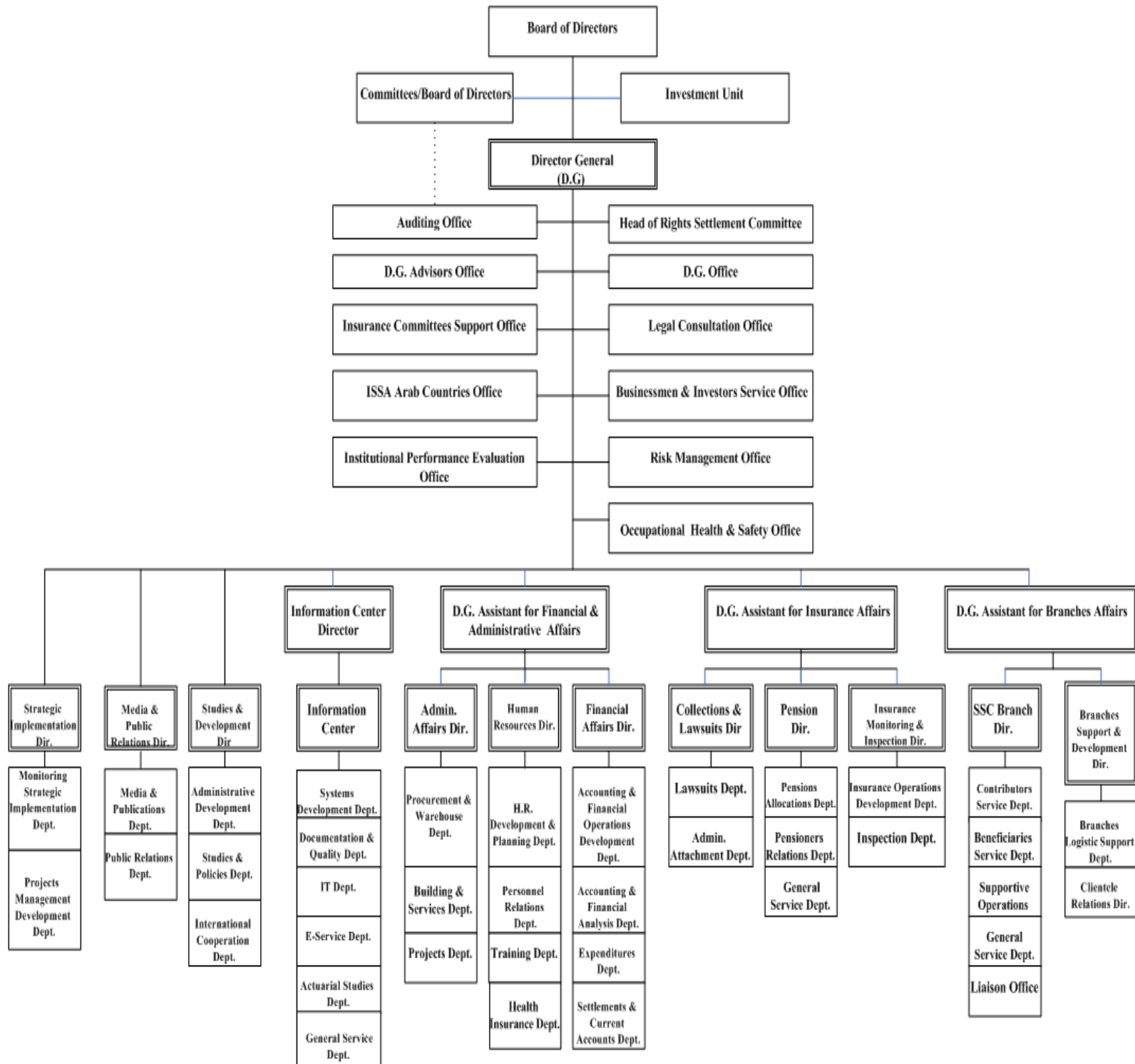
- b. Joint Venture.
- c. Limited Liability.
- d. Limited Partnership in Shares.
- e. Public Shareholding Companies.
- f. Other (specify) _____

3. How many employees does your company have?

employee	Tick
Less than 50	
50 – 200	
More than 200	

Is there anything else about CE that you would like to comment on? If so, please use the space below to comment.

Appendix 6.1 JSSC - Organizational structure



Appendix (6.2)

The percentage distribution of the responses to each statement, it also contains the mean values, standard deviations and relative importance for the key variables used in the study.

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	R-I
Social Security contribution rates are relatively high.	8.7	38.9	5.2	47.2	-	3.0917	.61834
The probability of being inspected is relatively low.	5.2	47.2	5.2	42.4	-	3.1528	.63056
The fines for employers not making statutory contributions is relatively low.	10.5	26.2	58.1	5.2	-	2.4192	.48384
Financial hardship of firms results in firms who avoid paying contributions.	10.5	63.3	12.2	12.2	1.7	3.6856	.73712
Firms avoid contributions to minimise labour costs.	12.2	63.3	10.5	14.0	-	3.7380	.7476
The high cost to firms of employing their own accountants to calculate their employees' contributions could result in CE.	9.2	46.3	5.2	35.5	3.5	3.2183	.64366
High unemployment rates prevent employees complaining about firms not paying their contributions.	22.7	56.3	8.7	12.2	-	3.8952	.77904
The administration handles the JSSC in an appropriate way.	3.5	38.9	29.7	27.9	-	3.1790	.6358
The JSSC acts as a service institution and treats taxpayers	-	15.7	17.5	63.3	3.5	2.4541	.49082

as partners							
The JSSC employees are highly trained and professional.	3.5	36.7	24.5	33.6	1.7	3.0655	.6131
The JSSC employees are very approachable.	-	50.7	28.4	19.2	1.7	3.2795	.6559
The implementation of JSSC compliance procedures is complicated.	-	10.5	8.7	37.1	43.7	1.8603	.37206
The JSSC has an efficient contribution recording and collection system.	3.5	52.4	30.1	14.0	-	3.4541	.69082
Laws and rules are equally enforced by JSSC.	14.0	29.7	44.1	12.2	-	3.4541	.69082
There are easy opportunities to collude with SSC inspectors.	-	36.7	38.8	23.1	1.4	3.1004	.62008
There is a lack of coordination between JSSC and other government bodies.	12.2	58.1	21.0	8.7	-	3.7380	.7476
There is a lack of knowledge and information provided by the JSSC	17.5	54.6	8.7	17.5	1.7	3.6856	.73712
Computerised systems used by the JSSC are quite efficient.	8.7	44.1	14.0	33.2	-	3.2838	.65676
The JSSC is quite suitable to the Jordanian economic situation.	10.5	43.7	14.4	27.9	3.5	3.2969	.65938

The JSSS contains some design features which encourage evasion.	3.5	47.6	26.2	22.7	-	3.3188	.66376
The current JSSS benefits only firm's owners.	5.2	38.4	10.5	35.4	10.5	2.9258	.58516
The current JSSS benefits only employees.	10.5	57.6	21.4	10.5	-	3.6812	.73624
The current JSSS benefits both employers and employees equally.	5.2	26.2	8.7	59.8	-	2.7686	.55372
There is a lack of linkage between JSSS contribution and benefits.	12.2	42.4	17.5	26.2	1.7	3.3712	.67424
Limited SS provision is one of the main reasons for noncompliance.	43.7	33.6	8.7	14.0	-	4.0699	.81398
Laws and rules are complicated and are very difficult to understand	5.2	23.1	15.7	41.9	14.0	2.6376	.52752
Most firms are honest through fear of getting caught.	1.7	40.2	9.2	40.2	8.7	2.8603	.57206
CE does not put a firm's professional reputation at risk.	5.2	56.3	7.0	31.4	-	3.3537	.67074
CE does not generate anxiety and guilt.	3.5	61.1	12.7	19.2	3.5	3.4192	.68384
High level of firm sense of duty play a vital role in combating contribution evasion.	12.2	66.8	19.2	1.7	-	3.8952	.77904

Firms are aware that contribution evasion could cause serious financial problems for the JSSS in the future.	10.5	49.3	8.7	31.4	-	3.3886	.67772
Firms who do evade contributions don't feel their actions are morally wrong.	3.5	68.6	12.2	15.7	-	3.5983	.71966

Appendix 7.1

Coefficients(a)

Model		t	Sig.
		Tolerance	VIF
1.	q1	-1.167	.245
2.	q2	4.925	.000
3.	q3	2.969	.003
4.	q4	-6.130	.000
5.	q5	-4.891	.000
6.	q6	-1.987	.049
7.	q7	2.251	.026
8.	q10	-4.034	.000
9.	q11	-4.211	.000
10.	q12	-2.440	.016
11.	q13	1.409	.161
12.	q14	-3.663	.000
13.	q15	.613	.541
14.	q16	-1.154	.250
15.	q17	-.320	.749
16.	q18	2.224	.027
17.	q19	-.973	.332
18.	q20	1.139	.257
19.	q21	-1.367	.174
20.	q22	-.595	.553
21.	q23	-.116	.908
22.	q24	-.455	.650
23.	q25	-.847	.398
24.	q26	-3.156	.002
25.	q27	-1.511	.133
26.	q28	.542	.589
27.	q29	1.063	.289
28.	q30	.377	.707
29.	q31	-2.539	.012
30.	q32	5.324	.000
31.	q33	.095	.924
32.	q34	1.237	.218

a. Dependent Variable: dep